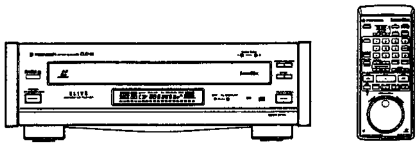
PIONEER®
The Art of Entertainment

Service Manual



ORDER NO.
ARP2252

CD CDV LD PLAYER

CLD-95

- This manual is applicable to the KU/CA and SD types.
- As to the SD type, refer to page 123.

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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 9120 Beveren, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911
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FJ MAY. 1991 Printed in Japan

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

1. SAFETY INFORMATION

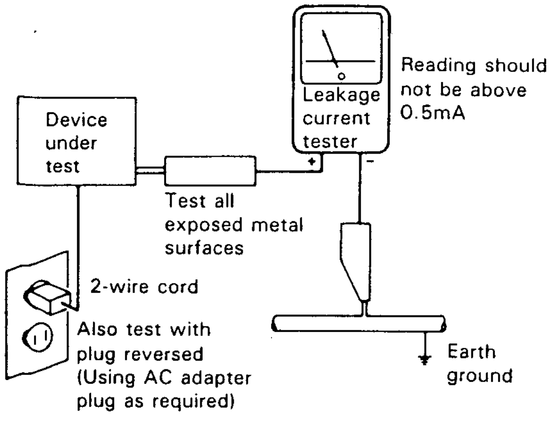
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



Leakage current tester
Reading should not be above 0.5mA
Device under test
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND PARTS LIST

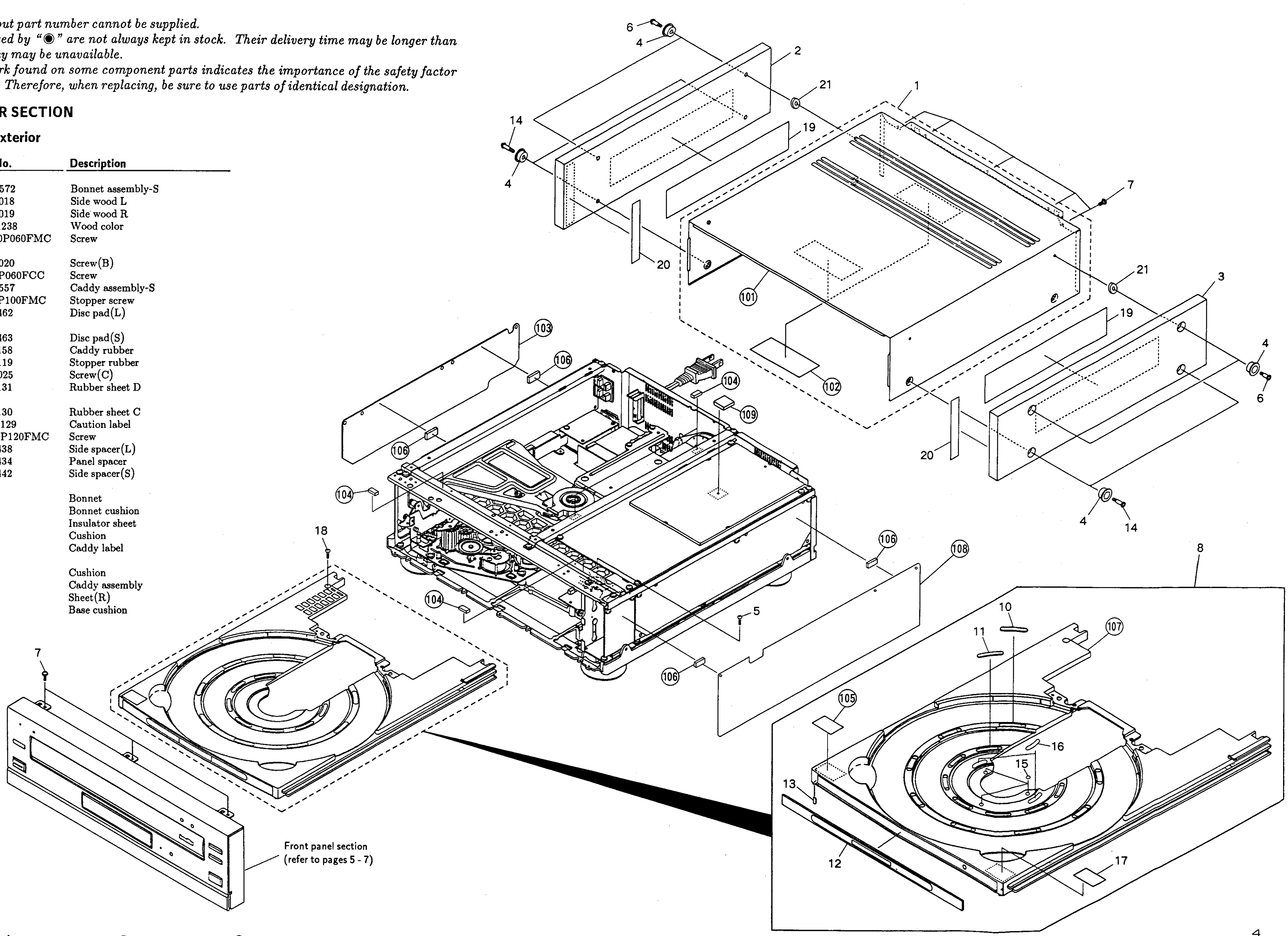
NOTES :

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

2.1 EXTERIOR SECTION

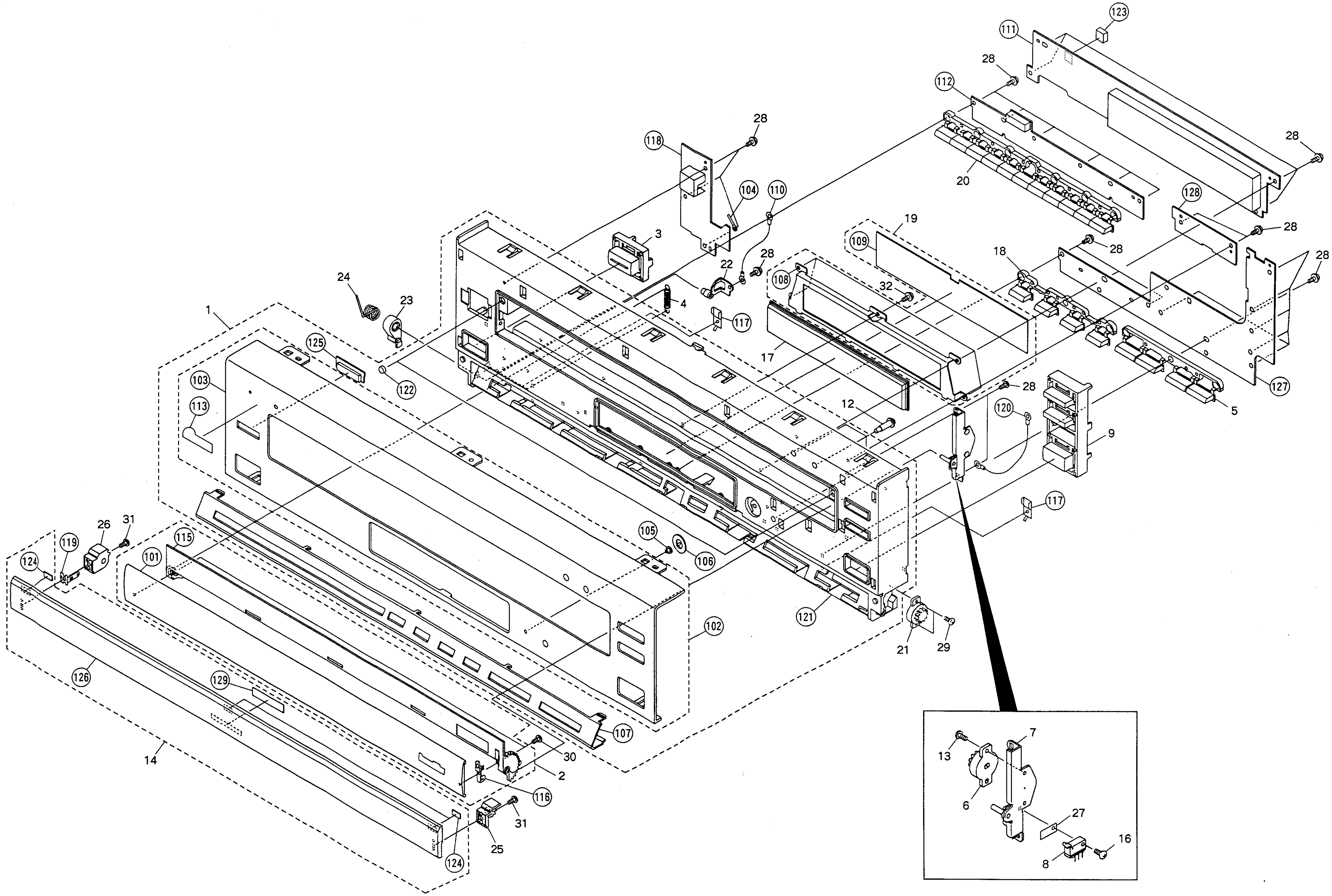
Parts List of Exterior

Mark	No.	Parts No.	Description
	1	VXX1572	Bonnet assembly-S
	2	VAP1018	Side wood L
	3	VAP1019	Side wood R
	4	PNW1238	Wood color
	5	VCZ30P060FMC	Screw
	6	VBA1020	Screw(B)
	7	IBZ30P060FCC	Screw
	8	VXX1557	Caddy assembly-S
	9	IPZ30P100FMC	Stopper screw
	10	VEC1462	Disc pad(L)
	11	VEC1463	Disc pad(S)
	12	VEB1158	Caddy rubber
	13	VEB1119	Stopper rubber
	14	VBA1025	Screw(C)
	15	VEB1131	Rubber sheet D
	16	VEB1130	Rubber sheet C
	17	VRW1129	Caution label
	18	BBZ30P120FMC	Screw
	19	VEC1438	Side spacer(L)
	20	VEC1434	Panel spacer
	21	VEC1442	Side spacer(S)
	101		Bonnet
	102		Bonnet cushion
	103		Insulator sheet
	104		Cushion
	105		Caddy label
	106		Cushion
	107		Caddy assembly
	108		Sheet(R)
	109		Base cushion



Front panel section
(refer to pages 5 - 7)

2.2 FRONT PANEL SECTION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Parts List of Front Panel Section

Mark	No.	Parts No.	Description
	1	VXX1571	Front panel assembly-S
	2	VXX1573	Door assembly-S
	3	VNK1712	Power button
	4	VBH1140	Door spring
	5	VNK1711	Search key
	6	VXA1053	Dumper assembly
	7	VXA1623	Dumper plate assembly
	8	VSK1014	Door switch
	9	VNK1713	Function key
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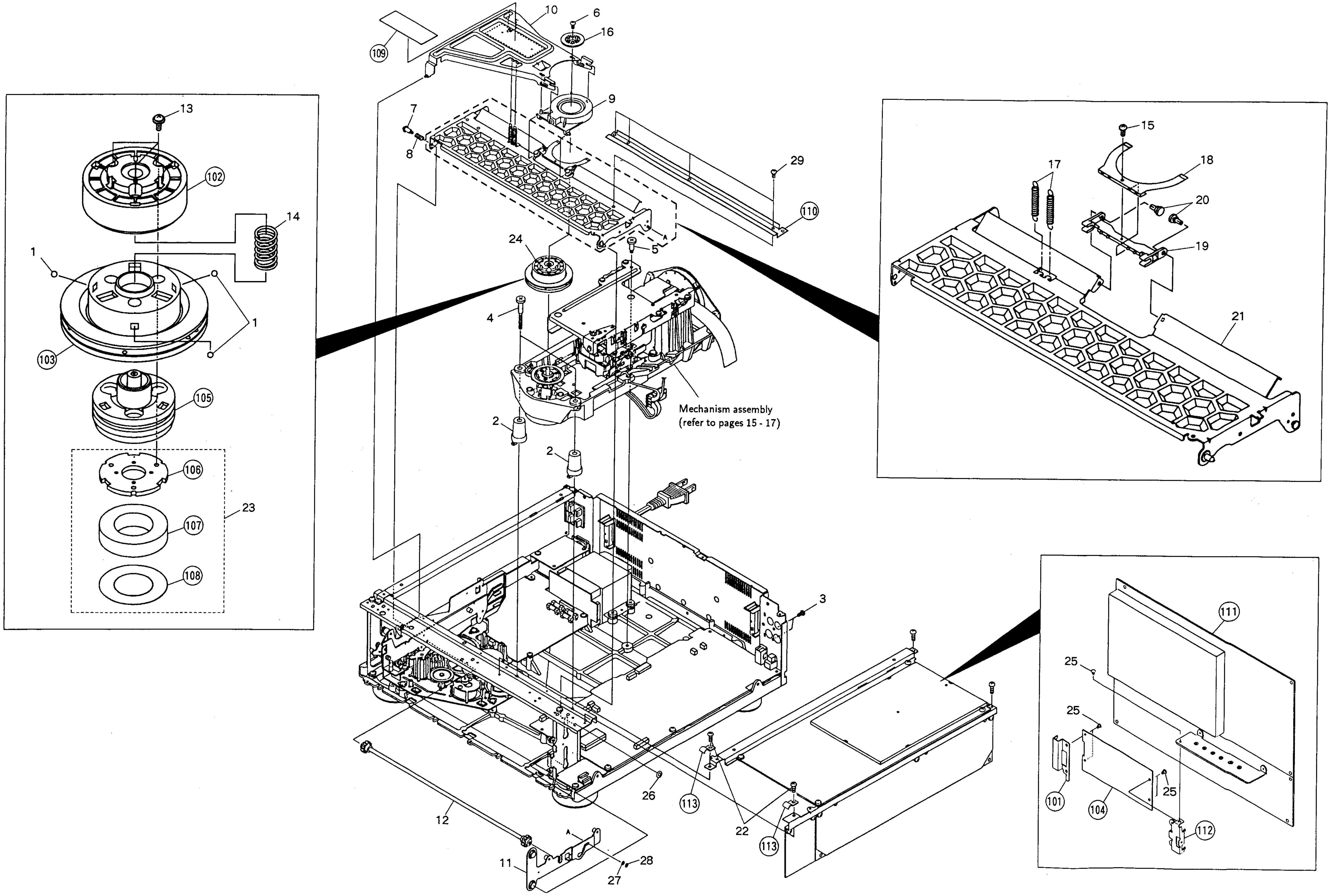
	12	VLL1313	Gold button
	13	PMZ20P040FCU	Screw
	14	VXX1574	Pocket assembly-S
	15		. . . . .
	16	PMZ20P060FMC	Screw
	17	VEC1392	FL panel
	18	VNK1710	Mode key
	19	VXX1575	Back plate assembly-S
	20	VNK1709	Ten key
	21	REC1013	Dumper assembly
	22	VXA1536	Pocket holder assembly
	23	VNL1339	Pocket Lock
	24	VBH1141	Pocket spring
	25	VNK1715	Pocket arm R
	26	VNK1714	Pocket arm L
	27	DEC1238	Insulator sheet
	28	IPZ26P060FCU	Screw
	29	BPZ20P060DCU	Screw
	30	PMZ20P030FNI	Screw
	31	PMZ26P050FNI	Screw
	32	BPZ26P060FCU	Screw
	101		Door Aluminum assembly
	102		Front Aluminum assembly
	103		Front Aluminum
	104		Cord holder
	105		LED lens
	106		LED color
	107		Under Aluminum
	108		Back plate
	109		FL filter
	110		Earthlug assembly
	111		FLMB assembly
	112		KEYB assembly
	113		Name plate
	114		. . . . .
	115		Door holder assembly
	116		Door Earth
	117		Under Earth
	118		IRKB assembly
	119		Pocket Earth
	120		Earthlug assembly
	121		Front panel
	122		Door rubber
	123		P.C.B. cushion
	124		Pocket cushion
	125		Sensor Acrilyc
	126		Pocket Aluminum
	127		OPEB assembly(1/2)
	128		OPEB assembly(2/2)
	129		Pocket spacer

2.3 CLAMPER SECTION

Parts List of Clamper Section

Mark	No.	Parts No.	Description
	1	VNX1006	Steel ball
	2	VNL1237	Mech. support
	3	BPZ30P080FCU	Screw
	4	VBA1010	Floating screw A
	5	VBA1013	Floating screw B
	6	PMAB30P080FCU	Screw
	7	PBA1013	Screw(B)
	8	VBH1093	Arm spring
	9	VXA1344	Clamper holder assembly
	10	VXA1415	Clamper arm(B) assembly
	11	VXA1326	Roller plate(B) assembly
	12	VXA1329	Synchro gear assembly
	13	AMZ20P040FMC	Screw
	14	VBH1097	Centering spring(B)
	15	BPZ20P040FZK	Screw
	16	VNL1223	Clamper Head
	17	VBH1099	Arm spring
	18	VNE1361	Plate spring
	19	VNL1246	Parallel link
	20	VEC1302	Plastic rivet
	21	VXA1424	Clamper arm(A) assembly
	22	IBZ30P060FCC	Screw
	23	VXX1333	Magnetic assembly-S
	24	VXX1508	Clamper assembly-S
	25	VEC-143	Plastic rivet
	26	WT34D060D050	Washer
	27	WA32N080W050	Washer
	28	YE25FUC	E ring
	29	BBZ26P060FMC	Screw

Mark	No.	Parts No.	Description
	101		P.C.B. holder(B)
	102		Clamper cover
	103		Disc clamper
	104		YCSB assembly
	105		Centering hab(B)
	106		Yoke plate
	107		Magnet
	108		Gap sheet
	109		Cushion
	110		Arm reinforced plate
	111		HDTV assembly
	112		P.C.B. holder
	113		Earth plate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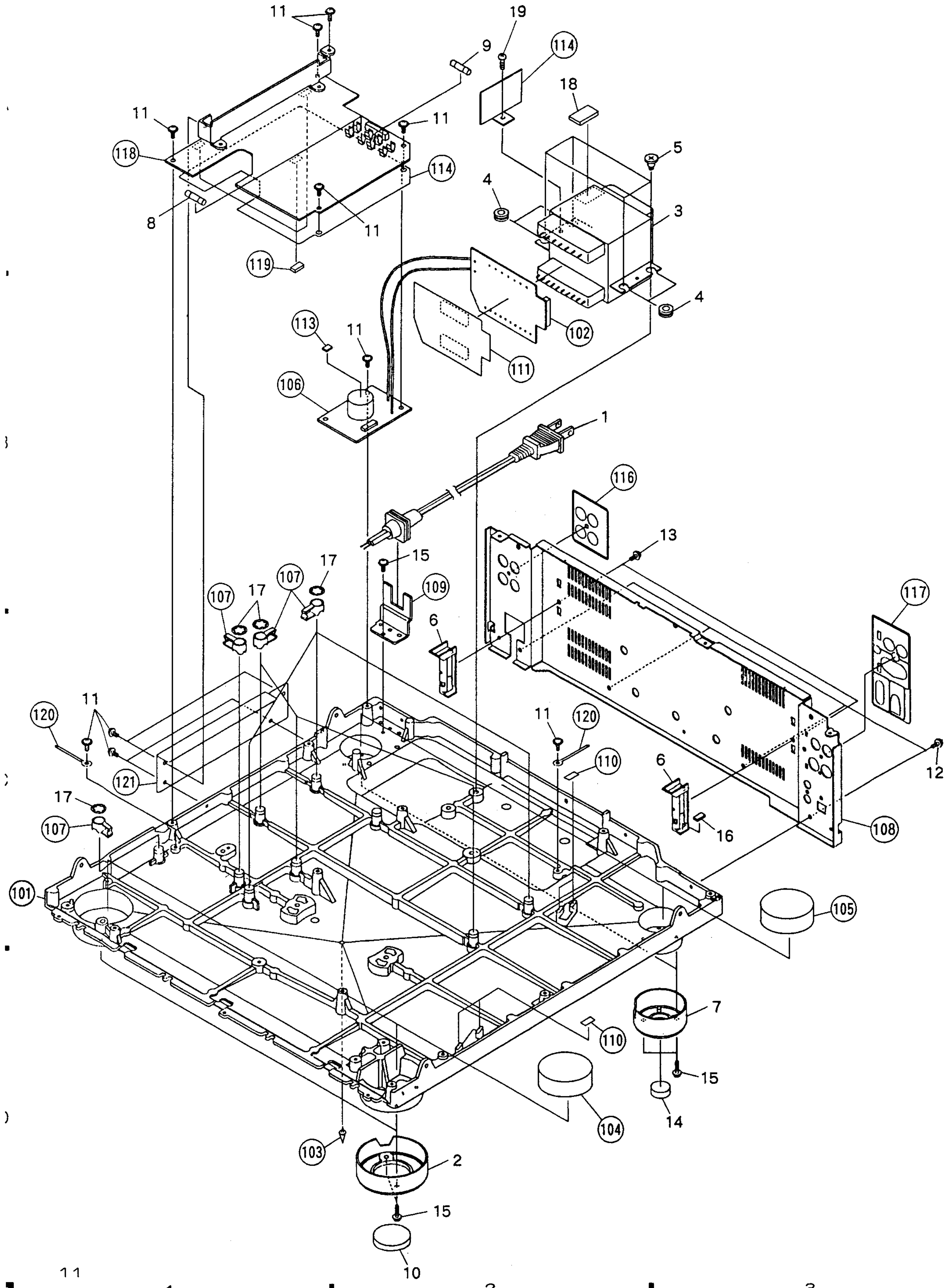
Mechanism assembly
(refer to pages 15 - 17)

2.4 BASE SECTION



2.4 BASE SECTION

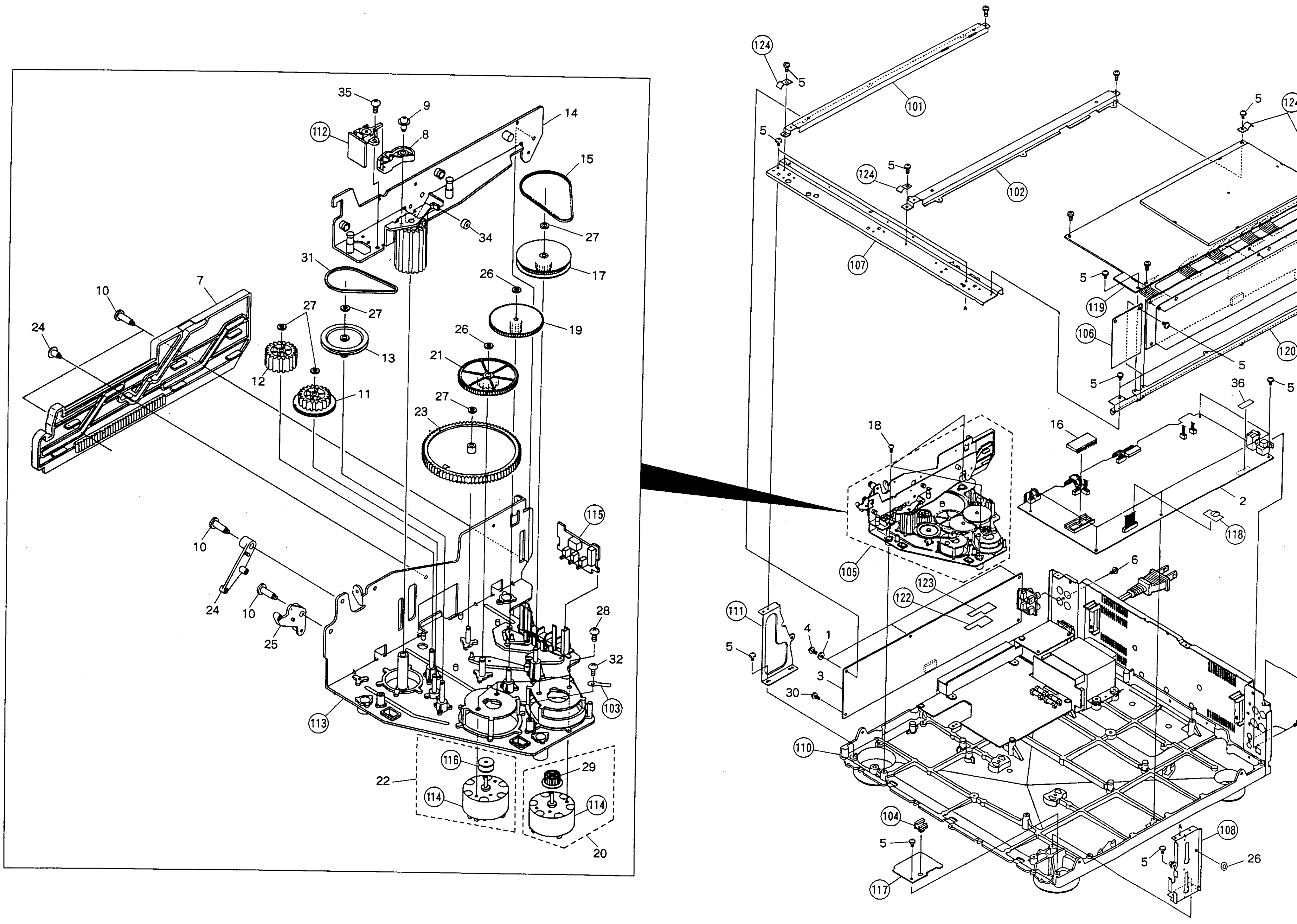
Parts List of Base Section

Mark	No.	Parts No.	Description
⚠	1	VDG1046	Power cord
	2	VNK1593	Cap(F)
⚠	3	VTT1093	Power transformer
	4	VEB1100	Transformer rubber
	5	VBA1011	Transformer biss
	6	VNL1202	Tray stopper
	7	VNK1594	Cap(R)
⚠	8	VEK-018	Fuse(FU1,FU2,FU5)(3A)
⚠	9	VEK-022	Fuse(FU3,FU4)(2A)
	10	VEC1440	Cushion
	11	IBZ30P060FCC	Screw
	12	BBT30P060FCC	Screw
	13	IPZ30P080FCU	Screw
	14	VEC1401	Cushion(R)
	15	BBZ30P080FCC	Screw
	16	VEB1033	Door dump rubber
	17	YS80FBT	Stopper ring
	18	VEC1445	Transformer cushion
	19	BCZ30P050FMC	Screw
	101		Under base
	102		TRSB assembly
	103		Rubber foot
	104		Pad(F)
	105		Pad(R)
	106		LSFB assembly
	107		Wire clip
	108		Rear panel
	109		Cord holder
	110		Dump sheet
	111		Insulation sheet
	112		• • • • •
	113		Filter cushion
	114		Shield sheet
	115		• • • • •
	116		Label (L)
	117		Label (R)
	118		SYPS assembly
	119		Spacer
	120		Cord holder
	121		Shield plate

2.5 LOADING SECTION

Parts List of Loading Section

Mark	No.	Parts No.	Description
	1	PEB1109	Stopper rubber
◉	2	VWS1099	MAIN assembly
◉	3	VWV1201	AUDB assembly
	4	PBA1014	Screw (B)
	5	IBZ30P060FCC	Screw
	6	BPZ30P080FCU	Screw
	7	VNL1231	Slide cam
	8	VNL1239	SW lever
	9	VBA1008	Screw (B)
	10	VBA1014	Screw (C)
	11	VNL1229	Gear (B)
	12	VNL1230	Follow gear
	13	VNL1249	Gear pulley
	14	VXA1532	Roller plate(L) assembly
	15	VEB1069	Synchro belt
	16	PDK012A	Program P ROM-S (IC205)
	17	VXA1263	Timing pulley assembly
	18	BBZ30P080FCC	Screw
	19	VNL1280	Gear (D)
	20	VXX1324	Loading motor V assembly
	21	VNL1141	Gear (A)
	22	VXX1328	Loading motor H assembly
	23	VNL1228	Cam gear
	24	VNL1290	Lock arm
	25	VNL1247	Lever OC
	26	WT34D060D050	Washer
	27	WT26D047D025	Washer
	28	BMZ26P040FCU	Screw
	29	VNL1148	Motor pulley
	30	VEC-143	Plastic rivet
	31	PEB1013	Belt
	32	BBZ30P080FMC	Screw
	33		• • • • • •
	34	VEB1091	Stop ring
	35	BMZ26P040FMC	Screw
	36	VEC1072	Case sheet
	101		Angle (L)
	102		Center angle
	103		Cord holder
	104		P plate holder
	105		Loading assembly
	106		JCCB assembly
	107		Front angle
	108		Stay (R) assembly
	109		HDTV assembly
	110		Under base
	111		Side stay (L)
	112		LHSB assembly
	113		Loading base assembly
	114		Carriage motor
	115		LVSB assembly
	116		Motor pulley
	117		SPRT assembly
	118		Wire clip (A)
	119		ERRM assembly
	120		PCB holder
	121		Dump cushion
	122		RDAB assembly
	123		LDAB assembly
	124		Earth plate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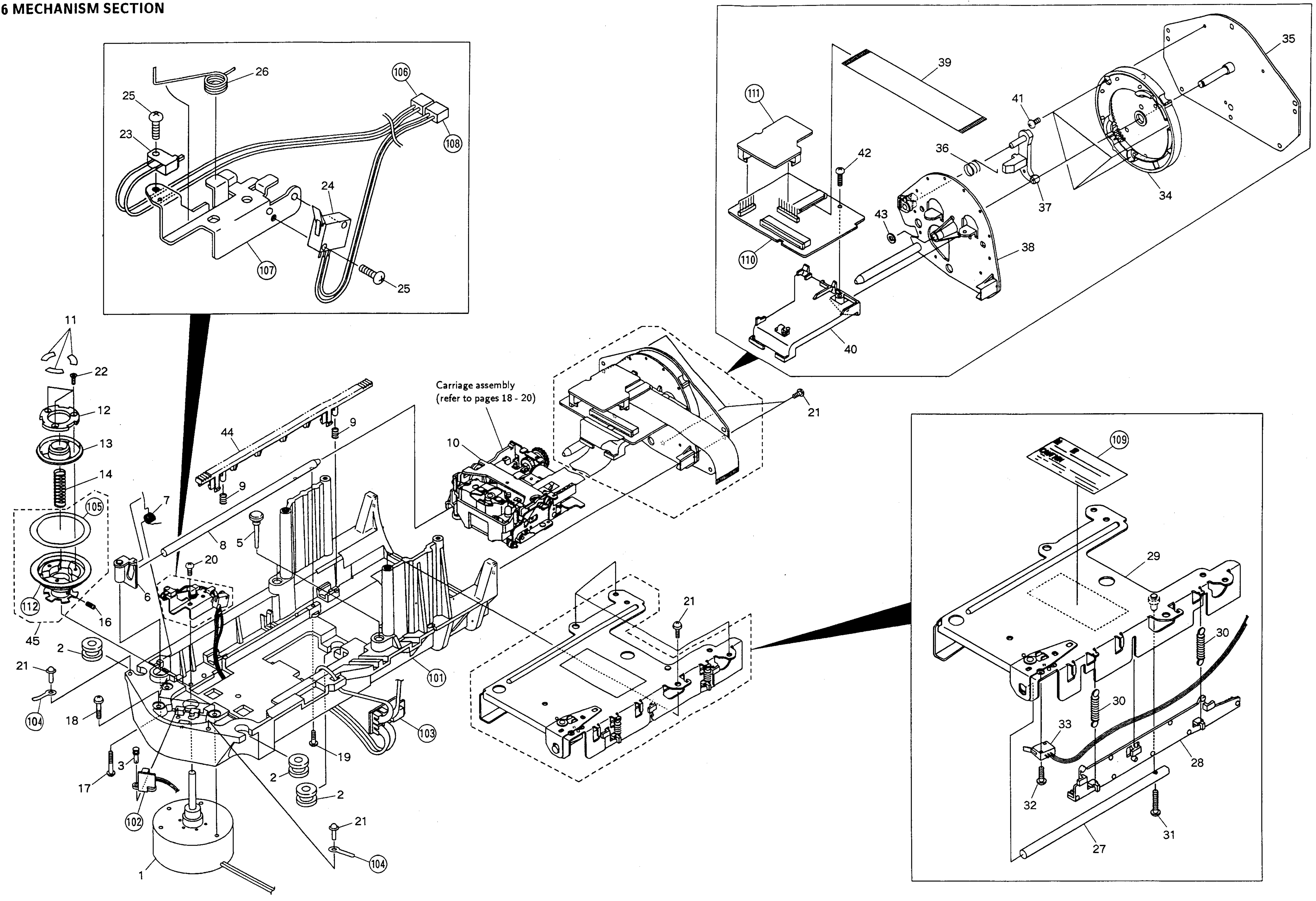
2.6 MECHANISM SECTION


Carriage assembly
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Mark	No.	Parts No.	Description
	1	VXM1044	Spindle motor
	2	VEB1095	Floating rubber A
	3	VEC1298	Plastic rivet
	4		• • • • •
	5	VEB1094	Dumper
	6	VXA1345	Holder assembly
	7	VBH1098	Holder spring A
	8	VLL1202	Carriage shaft (Lower)
	9	VBH1057	Rack spring (Lower)
◉	10	VWT1054	Carriage assembly
	11	VEC1332	Sheet
	12	VNE1360	Yoke plate A
	13	VNT1033	Centering hab (A)
	14	VBH1024	Centering spring
	15		• • • • •
	16	ZMD30H050FBT	Screw
	17	BMZ30P160FCU	Screw
	18	PMB30P200FCU	Screw
	19	PMZ26P130FMC	Screw
	20	BPZ30P100FCU	Screw
	21	IPZ30P100FCU	Screw
	22	CBZ20P080FMC	Screw
	23	DSG1012	Push switch (CD INSIDE)
	24	VSK1003	Slide switch (CDV, LD A INSIDE)
	25	PMZ20P070FCU	Screw
	26	VBH1104	Holder spring B
	27	VNL1201	Carriage shaft (Upper)
	28	VNL1153	Rack gear (Upper)
	29	VXA1334	Mechanism chassis assembly (Upper)
	30	VBH1058	Rack spring (Upper)
	31	PMZ20P160FMC	Screw
	32	PMZ20P080FMC	Screw
	33	VSK1003	Slide switch(LD B INSIDE)
	34	VXA1335	Internal gear assembly
	35	VXA1333	G plate assembly
	36	VBH1072	Lever spring
	37	VNL1234	Lock lever
	38	VXA1332	R plate assembly
	39	VDA1207	Flexible cable (FFC)
	40	VNL1235	Harness guide
	41	BBZ26P060FCC	Screw
	42	BBZ30P140FCC	Screw
	43	WT36D072D050	Washer
	44	VNL1238	Rack gear (Lower)
	45	VXX1323	Turn table assembly-S

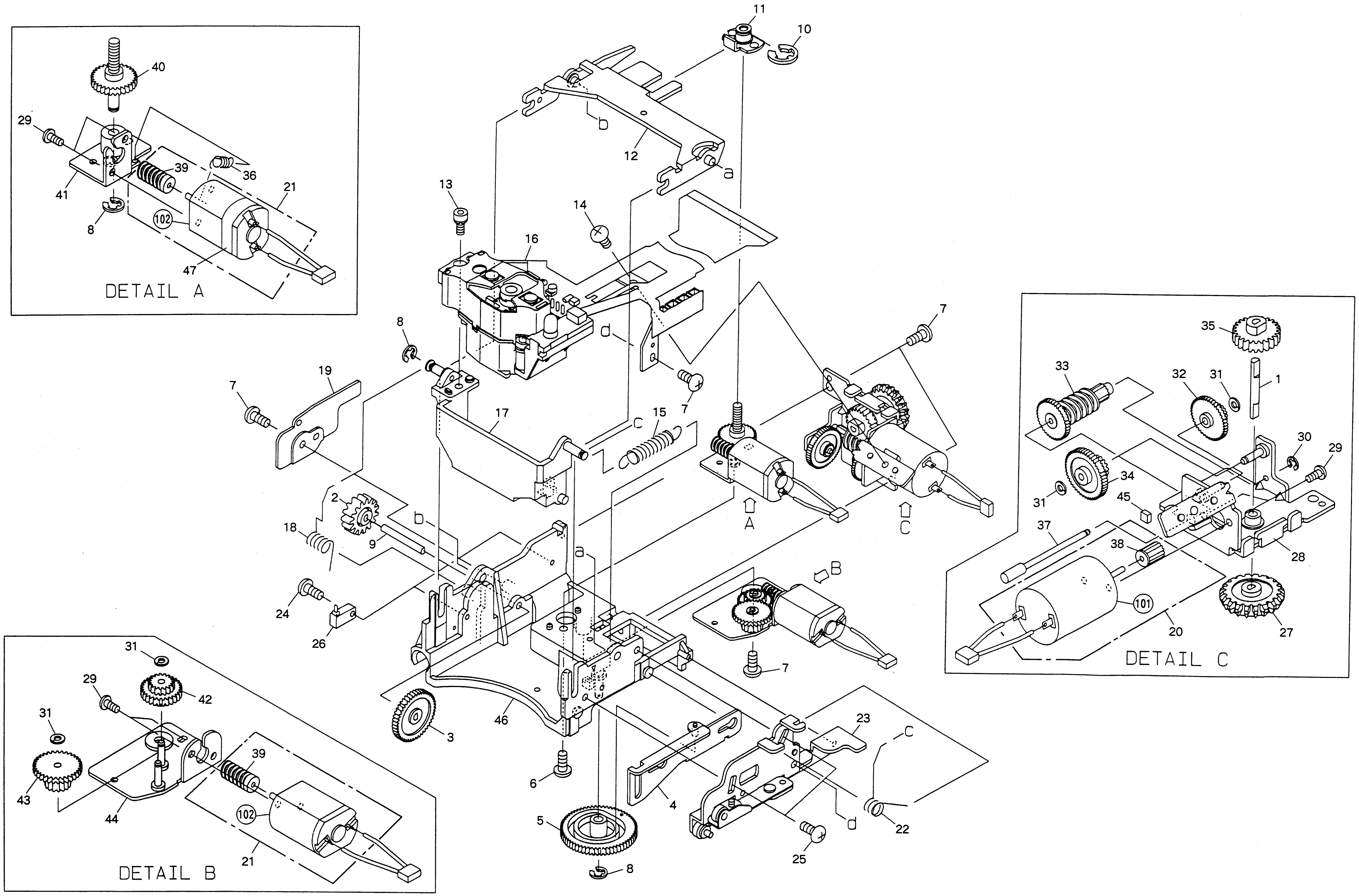
Mark	No.	Parts No.	Description
	101		Mechanism chassis (Lower)
	102		FGSB assembly
	103		CNNB assembly
	104		Clamper
	105		Rubber sheet
	106		Housing assembly
	107		SW holder
	108		Housing assembly
	109		Caution label
	110		PREB assembly
	111		PRET assembly
	112		Turn table assembly

2.7 CARRIAGE ASSEMBLY(VWT 1054)

Parts List of Carriage Assembly

Mark	No.	Part No.	Description
	1	VLL1152	SL shaft (B)
	2	VNL1158	SL gear (F)
	3	VNL1253	SL gear (E)
	4	VXA1243	Slide plate assembly
	5	VNL1166	TL cam gear
	6	PMA26P050FMC	Screw
	7	BBZ26P050FCC	Screw
	8	YE20FUC	E ring
	9	VLL1270	SL shaft (C)
	10	YE40FUC	Stop ring
	11	VXA1259	AF plate assembly
	12	VXA1246	AF arm assembly
	13	VLL1107	Bolt 2.6 × 6
	14	PBZ26P040FCC	Screw
	15	VBH1063	Tilt spring
	16	VWY1019	Pickup assembly
	17	VXA1336	PU holder assembly
	18	VBH1061	AF spring (L)
	19	VNE1284	AF stopper
	20	VXX1329	Slider motor assembly-S
	21	VXX1227	Tilt (Height) motor assembly-S
	22	VBH1088	AF spring (R)
	23	VXA1331	TAN base assembly
	24	PBZ20P070FCC	Screw
	25	PMB26P050FCU	Screw
	26	VSK1009	Slide switch (S5) (HEIGHT UP, DOWN)
	27	VNL1163	SL gear (H)
	28	VXA1241	SL base assembly
	29	JGZ20P022FMC	Screw
	30	YE12FUC	Stop ring
	31	WT17D034D050	Washer
	32	VNL1251	SL gear (B)
	33	VNL1137	SL gear (C)
	34	VNL1252	SL gear (D)
	35	VNL1159	SL gear (G)
	36	VBH1122	M spring
	37	VLL1151	SL shaft (A)
	38	VNL1250	SL gear (A)
	39	VNL1138	AF worm
	40	VXA1244	AF gear assembly
	41	VXA1245	AF holder assembly
	42	VNL1164	TL gear (A)
	43	VNL1165	TL gear (B)
	44	VXA1242	TL base assembly
	45	VEB1108	Dump rubber
	46	VXA1219	Carriage assembly
	47	VEC1193	Dump sheet

Mark	No.	Part No.	Description
	101		Slider motor
	102		Tilt motor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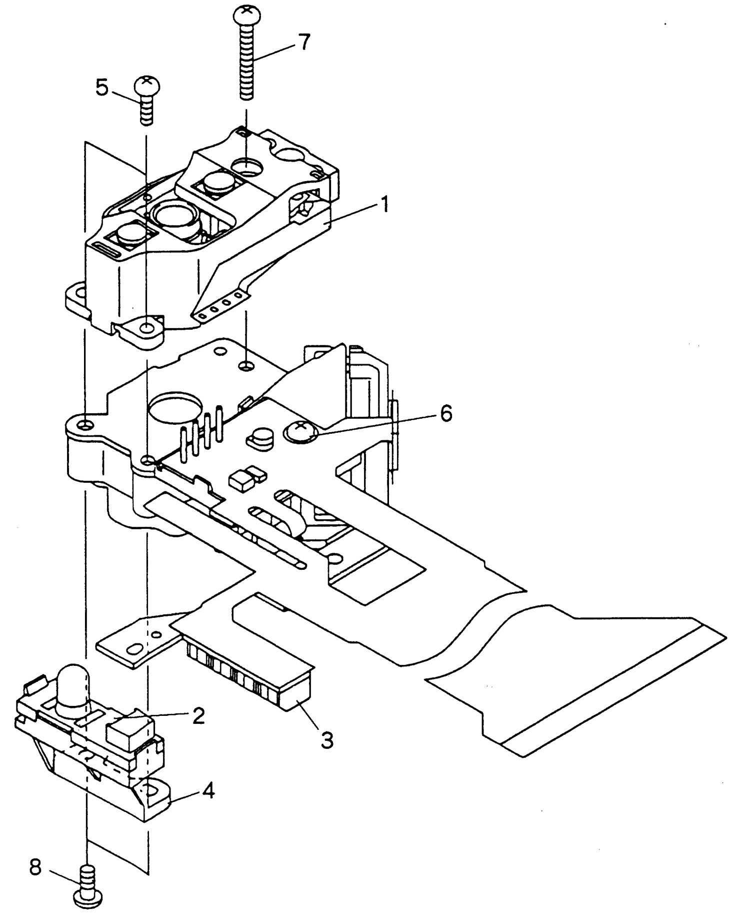
2.8 PICKUP ASSEMBLY(VWY 1019)



Parts List of Pickup Assembly

Mark	No.	Parts No.	Description
	1	VXX1552	Actuator assembly
	2	VEX1018	Sensor assembly
	3	VXX1332	Pre pickup assembly
	4	VNH1020	Sensor stay
	5	PMA20P060FMC	Screw
	6	PMA20P080FMC	Screw
	7	PMA20P160FMC	Screw
	8	PMB20P050FMC	Screw

3. PACKING

Parts List

Mark	No.	Parts No.	Description
	1	PDE1003	Connection cord with pin plug
	2	VDE1003	Video cable
	3	VBX1001	Screw assembly
	4	VRB1049	Instructions Manual(English)
	5	VXX1546	Remote control unit
	6	VHA1072	Pad (F)
	7	VHA1073	Pad (R)
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	9	VHG1148	Packing case
	10	VHL1012	Mirror mat
	11	VRW1165	POS code label
	12	VNK1806	Battery cover
	13	VBX1002	Cap assembly
	14	VEC1435	Cap
	15	VDE1013	S video cable

Mark	No.	Parts No.	Description
	51		Battery(R03, AAA)
	52		Polyethelene bag
	53		Caution card
	54		Service network
	55		LD software catalog
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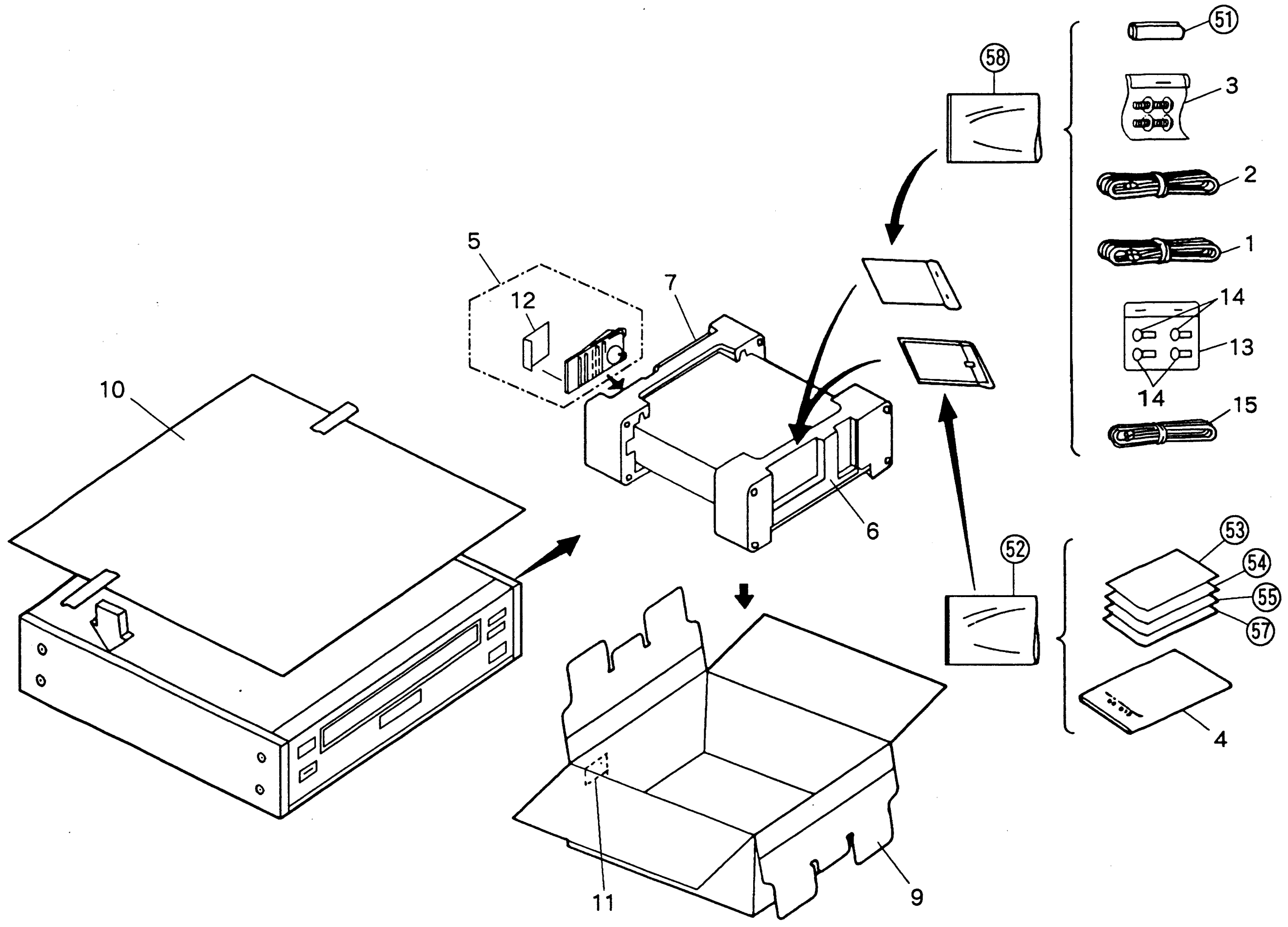
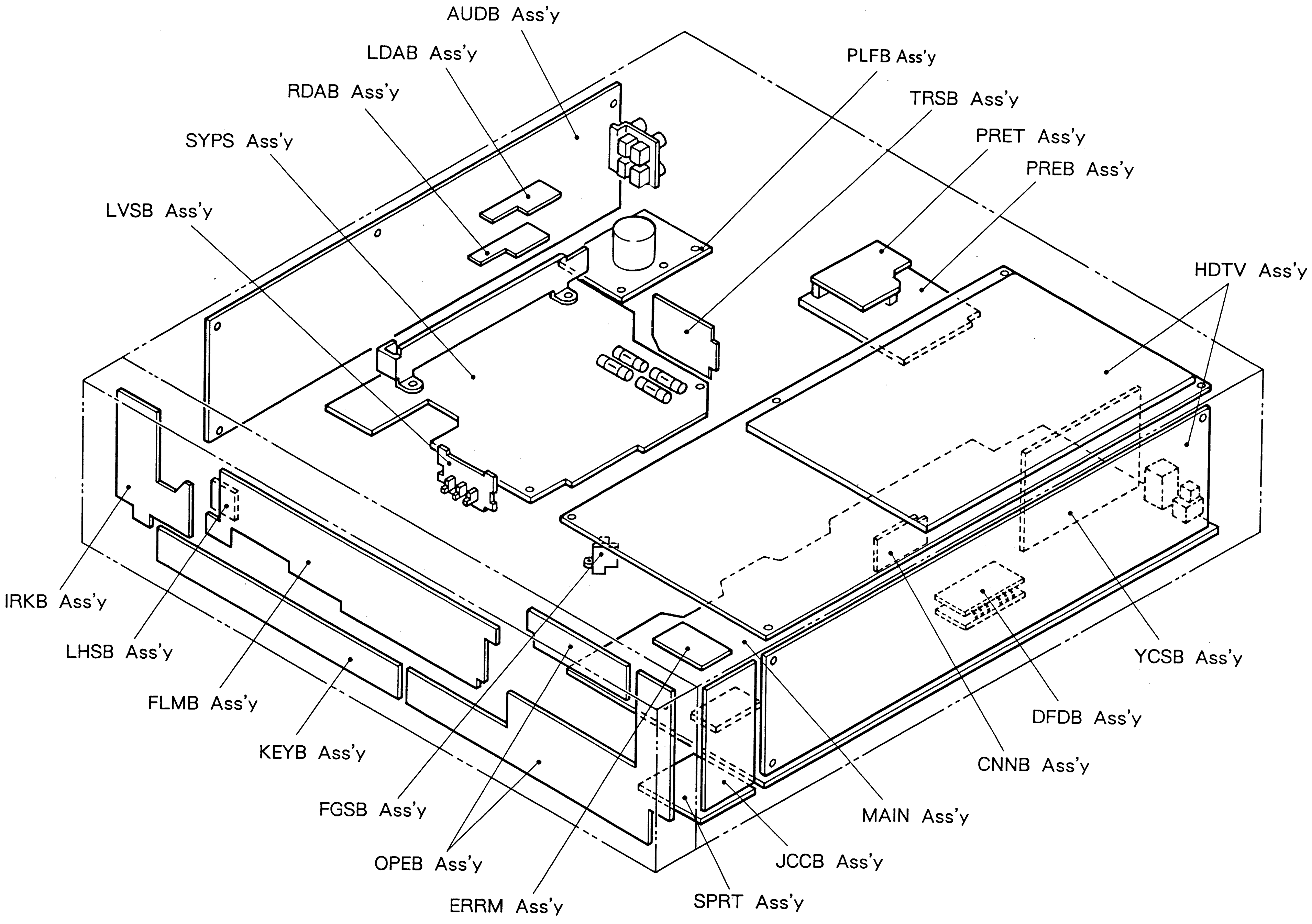
	57		Caution card(UC)
	58		Polyethelene bag



4. P.C.BOARDS LOCATION


AUDB Ass'y
LDAB Ass'y
RDAB Ass'y
SYPS Ass'y
LVSB Ass'y
PLFB Ass'y
TRSB Ass'y
PRET Ass'y
PREB Ass'y
HDTV Ass'y
IRKB Ass'y
LHSB Ass'y
FLMB Ass'y
KEYB Ass'y
FGSB Ass'y
OPEB Ass'y
ERRM Ass'y
SPRT Ass'y
JCCB Ass'y
MAIN Ass'y
CNNB Ass'y
DFDB Ass'y
YCSB Ass'y

MAIN : MAIN BOARD
AUDB : AUDIO BOARD
SYPS : SYSTEM POWER SUPPLY
LHSB : LOADING HORIZONTAL SWITCH BOARD
LVSB : LOADING VERTICAL SWITCH BOARD
FGSB : FG SWITCH BOARD
KEYB : KEY BOARD
CNNB : CONNECTOR BOARD
HDTV : HIGH-BRED CIRCUIT OF DIGITAL TBC AND VIDEO
PREB : PRE AMPLIFIER BOTTOM BOARD
PRET : PRE AMPLIFIER TOP BOARD
PLFB : POWER AND LINE SURGE FILTER BOARD
DFDB : DIGITAL FILTER AND DATA SELECTOR BOARD
LDAB : LEFT D/A CONVERTER BOARD
RDAB : RIGHT D/A CONVERTER BOARD
FLMB : FL MAIN BOARD
OPEB : OPERATION BOARD
JCCB : JITTER CANCEL CIRCUIT BOARD
IRKB : INFRARED REY AND KEY BOARD
ERRM : ERROR RATE MEASURING BOARD
SPRT : SUPPORT BOARD
TRSB : TRANSFORMER BOARD
YCSB : Y/C SEPARATION BOARD

5. SCHEMATIC AND P.C.BOARDS DIAGRAM

5.1 OVERALL WIRING DIAGRAM

1.RESISTORS :
Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k ; kΩ, M ; MΩ, (F) ; ±1%, (G) ; ±2%, (K) ; ±10%, (M) ; ±20% tolerance.

2.CAPACITORS :
Indicated in capacity (μF)/voltage(V) unless otherwise noted p ; pF. Indication without voltage is 50 V except electrolytic capacitor.

3.VOLTAGE, CURRENT :
▭ ; DC voltage (V) at play state.
⇦mA ; DC current at play state.
Value in ( ) is DC current at stop state.

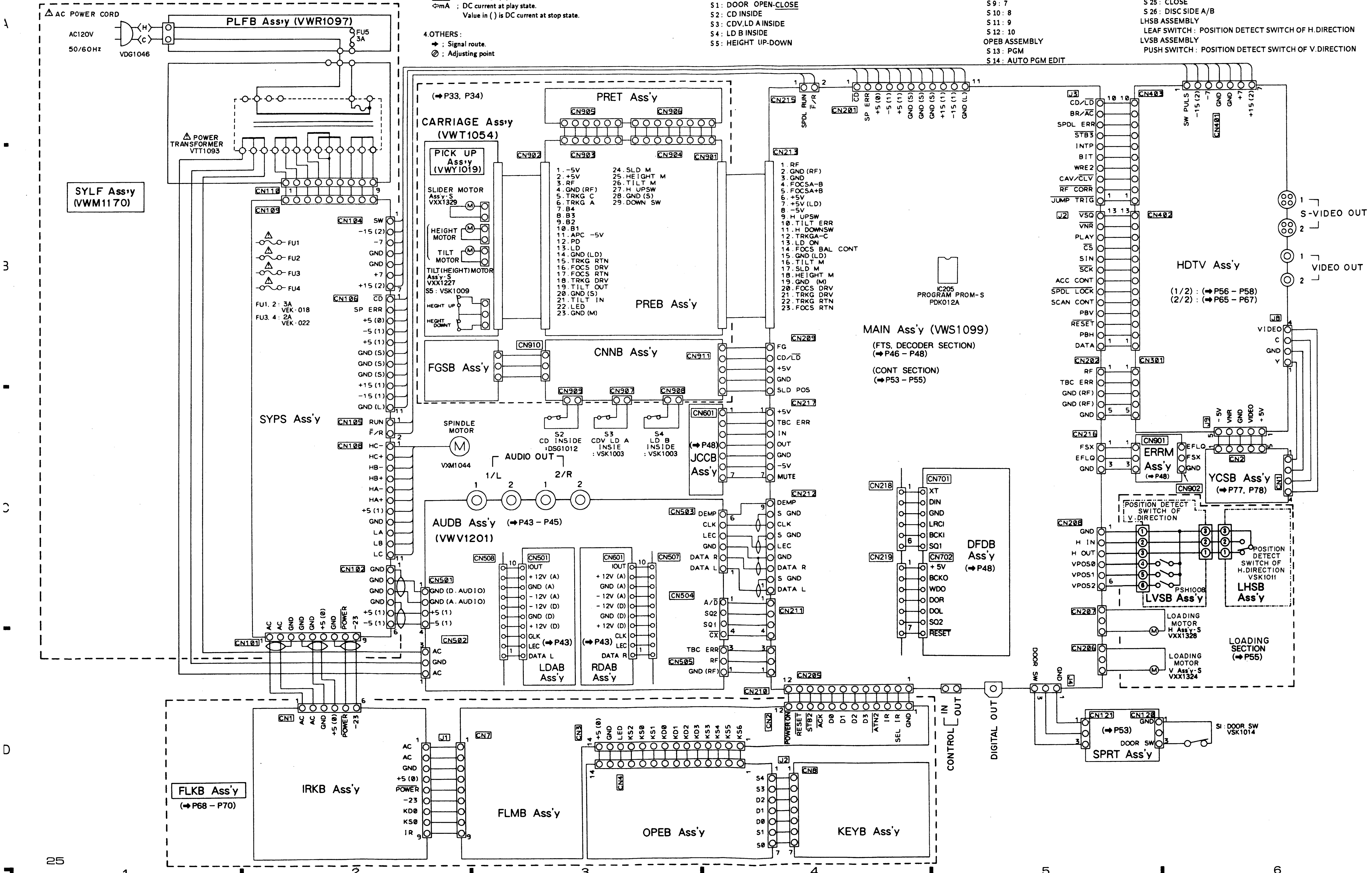
4.OTHERS :
➡ ; Signal route.
⊘ ; Adjusting point

The ⚠ mark found on some component parts indicates the inportance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

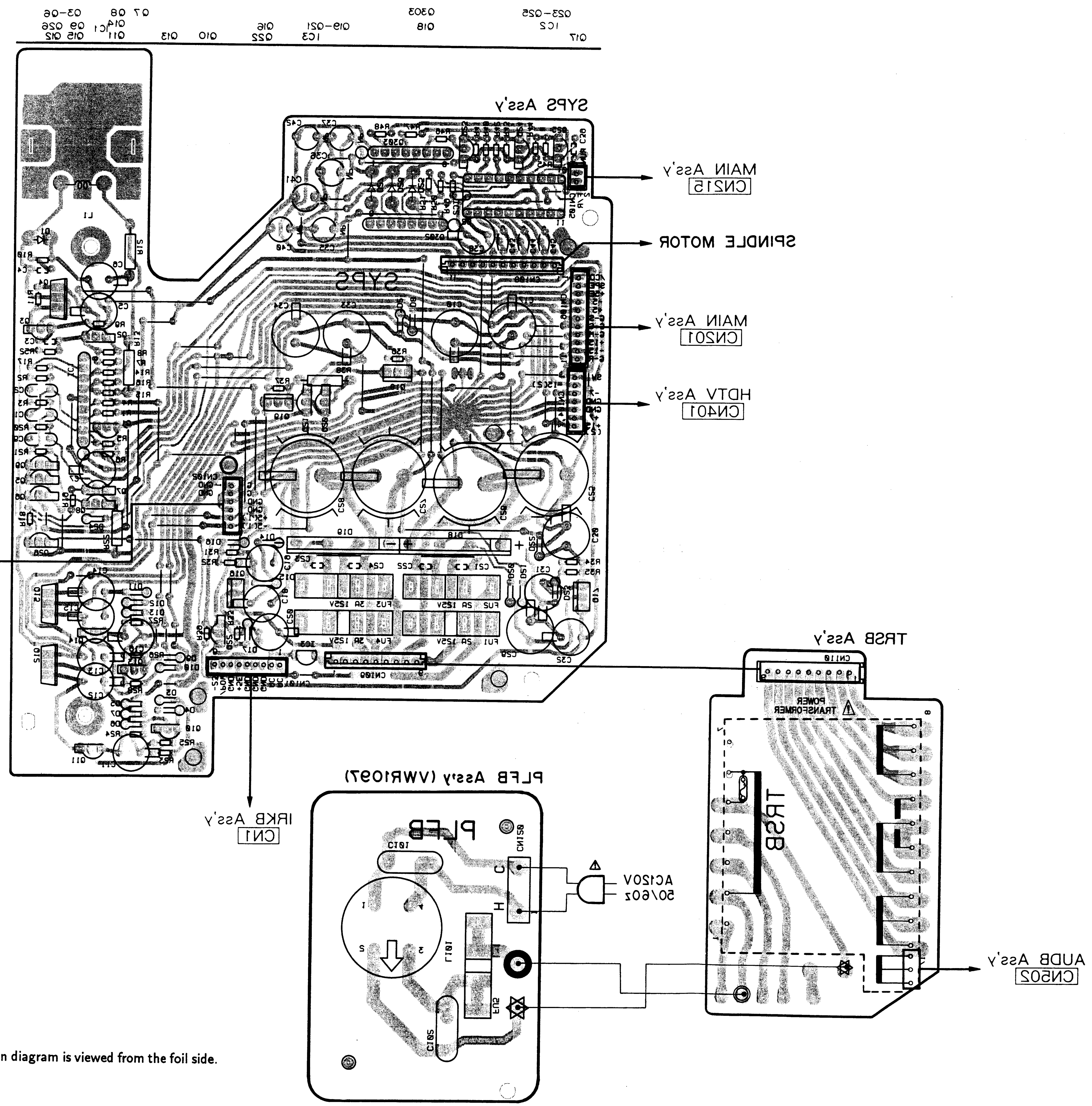
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES : (The underlined indicates the switch position)
OTHER BOARD ASSEMBLY
S1 : DOOR OPEN-CLOSE
S2 : CD INSIDE
S3 : CDV,LD A INSIDE
S4 : LD B INSIDE
S5 : HEIGHT UP-DOWN

IRKB ASSEMBLY
S 1 : POWER STANDBY/ON
KEYB ASSEMBLY
S 2 : +10
S 3 : 1
S 4 : 2
S 5 : 3
S 6 : 4
S 7 : 5
S 8 : 6
S 9 : 7
S 10 : 8
S 11 : 9
S 12 : 10
OPEB ASSEMBLY
S 13 : PGM
S 14 : AUTO PGM EDIT
S 15 : VIDEO NR
S 16 : RANDOM PLAY
S 17 : ◀◀ ┐ SCAN
S 18 : ▶▶ ┘
S 19 : |◀◀ ┐ SKIP
S 20 : ▶▶| ┘
S 21 : DISPLAY OFF
S 22 : PLAY/STILL
S 23 : STOP
S 24 : OPEN
S 25 : CLOSE
S 26 : DISC SIDE A/B
LHSB ASSEMBLY
LEAF SWITCH : POSITION DETECT SWITCH OF H.DIRECTION
LVSB ASSEMBLY
PUSH SWITCH : POSITION DETECT SWITCH OF V.DIRECTION

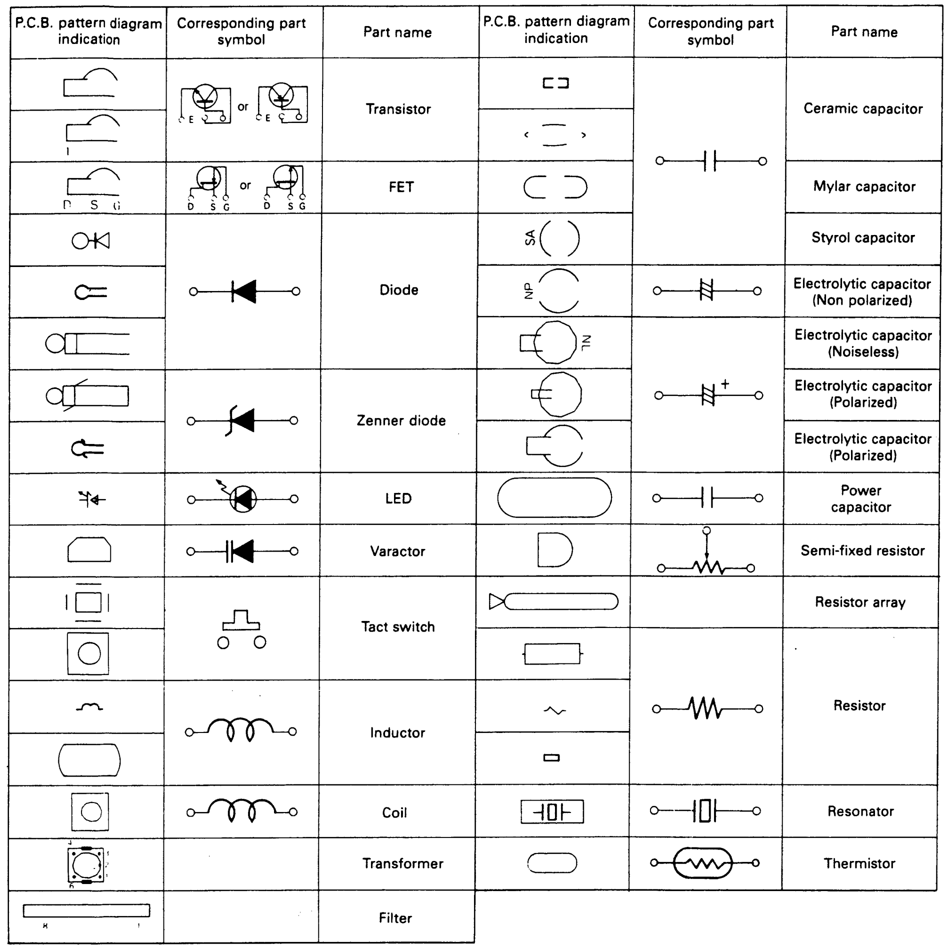

⚠ AC POWER CORD
AC120V
50/60Hz
VDG1046
PLFB Ass'y (VWR1097)
FU5 3A
⚠ POWER TRANSFORMER VTT1093
SYLF Ass'y (VWM1170)
CN110
CN109
FU1
FU2
FU3
FU4
FU1, 2 : 3A VEK-018
FU3, 4 : 2A VEK-022
SYPS Ass'y
CN104
SW
-15 (2)
-7
GND
+7
+15 (2)
CN106
CD
SP ERR
+5 (0)
-5 (1)
+5 (1)
GND (S)
+15 (1)
-15 (1)
GND (L)
CN105
RUN
F/R
CN108
HC-
HC+
HB-
HB+
HA-
HA+
LA
LB
LC
CN102
CN101
AC
POWER
-23
(➡P33, P34)
CARRIAGE Ass'y (VWT1054)
PICK UP Ass'y (VWY1019)
SLIDER MOTOR Ass'y-S VXX1329
HEIGHT MOTOR
TILT MOTOR
TILT(HEIGHT)MOTOR Ass'y-S VXX1227
S5 : VSK1009
HEIGHT UP
HEIGHT DOWN
PRET Ass'y
CN905
CN906
CN902
CN903
CN904
CN901
1. -5V
2. +5V
3. RF
4. GND (RF)
5. TRKG C
6. TRKG A
7. B4
8. B3
9. B2
10. B1
11. APC -5V
12. PD
13. LD
14. GND (LD)
15. TRKG RTN
16. FOCS DRV
17. FOCS RTN
18. TRKG DRV
19. TILT OUT
20. GND (S)
21. TILT IN
22. LED
23. GND (M)
24. SLD M
25. HEIGHT M
26. TILT M
27. H UPSW
28. GND (S)
29. DOWN SW
PREB Ass'y
FGSB Ass'y
CN910
CNNB Ass'y
CN911
CN909
CN907
CN908
S2 CD INSIDE :DSG1012
S3 CDV LD A INSIE : VSK1003
S4 LD B INSIDE : VSK1003
SPINDLE MOTOR
VXM1044
AUDIO OUT
1/L
2/R
AUDB Ass'y (VWV1201)
(➡P43 – P45)
CN508
CN501
CN601
CN507
CN503
CN504
CN505
CN502
IOUT
+12V (A)
GND (A)
-12V (A)
-12V (D)
GND (D)
+12V (D)
CLK
LEC
DATA L
DATA R
LDAB Ass'y
RDAB Ass'y
(➡P43)
GND (D. AUDIO)
GND (A. AUDIO)
DEMP
A/D
SQ2
SQ1
CX
TBC ERR
RF
GND (RF)
CN601
(➡P48)
JCCB Ass'y
CN215
SPDL RUN
F/R
CN201
CN213
1. RF
2. GND (RF)
3. GND
4. FOCSA-B
5. FOCSA+B
6. +5V
7. +5V (LD)
8. -5V
9. H UPSW
10. TILT ERR
11. H DOWNSW
12. TRKGA-C
13. LD ON
14. FOCS BAL CONT
15. GND (LD)
16. TILT M
17. SLD M
18. HEIGHT M
19. GND (M)
20. FOCS DRV
21. TRKG DRV
22. TRKG RTN
23. FOCS RTN
IC205 PROGRAM PROM-S PDK012A
MAIN Ass'y (VWS1099)
(FTS, DECODER SECTION) (➡P46 – P48)
(CONT SECTION) (➡P53 – P55)
CN209
FG
CD/LD
SLD POS
CN217
IN
OUT
MUTE
CN212
S GND
CN211
CN205
CN210
CN218
CN219
CN701
CN702
XT
DIN
LRCI
BCKI
SQ1
BCKO
WDO
DOR
DOL
RESET
DFDB Ass'y (➡P48)
J3
CN403
SPDL ERR
STB3
INTP
BIT
WRE2
CAV/CLV
RF CORR
JUMP TRIG
J2
VSQ
VNR
PLAY
CS
SIN
SCK
ACC CONT
SPDL LOCK
SCAN CONT
PBV
PBH
DATA
CN402
CN401
SW PULS
HDTV Ass'y
(1/2) : (➡P56 – P58)
(2/2) : (➡P65 – P67)
S-VIDEO OUT
VIDEO OUT
J8
VIDEO
C
Y
CN202
CN301
CN216
FSX
EFLO
CN901
ERRM Ass'y (➡P48)
J9
CN2
CN1
CN902
YCSB Ass'y (➡P77, P78)
CN208
H IN
H OUT
VPOS0
VPOS1
VPOS2
POSITION DETECT SWITCH OF V.DIRECTION
PSH1008
LVSB Ass'y
POSITION DETECT SWITCH OF H.DIRECTION VSK1011
LHSB Ass'y
CN207
CN206
LOADING MOTOR H Ass'y-S VXX1328
LOADING MOTOR V Ass'y-S VXX1324
LOADING SECTION (➡P55)
CONTROL IN OUT
DIGITAL OUT
DOOR SW
J4
CN121
CN120
(➡P53)
DOOR SW
SPRT Ass'y
S1 : DOOR SW VSK1014
CN1
FLKB Ass'y (➡P68 – P70)
IRKB Ass'y
J1
CN7
KD0
KS0
IR
FLMB Ass'y
CN3
CN4
LED
KS2
KS1
KO0
KO1
KO2
KO3
KS3
KS4
KS5
KS6
OPEB Ass'y
CN2
POWER ON
STB2
ACK
D0
D1
D2
D3
ATN2
SEL
J2
CN8
S4
S3
D2
D1
D0
S1
S0
KEYB Ass'y

5.2 SYPS, TRSB, PLFB ASSEMBLY


Q3–Q6
Q7 Q8
Q303
Q23–Q25
Q9 Q26
Q14 IC1
Q19–Q21
Q18
IC2
Q15 Q12
Q11
Q13
Q10
Q16 Q22
IC3
Q17
SYPS Ass'y
SYPS
MAIN Ass'y
CN215
SPINDLE MOTOR
MAIN Ass'y
CN201
HDTV Ass'y
CN401
AUDB Ass'y
CN501
TRSB Ass'y
POWER TRANSFORMER
TRSB
AUDB Ass'y
CN502
IRKB Ass'y
CN1
PLFB Ass'y (VWR1097)
PLFB
AC120V
50/60Z
FU1 2A 125V
FU3 2A 125V
FU4 2A 125V
FU5 2A 125V

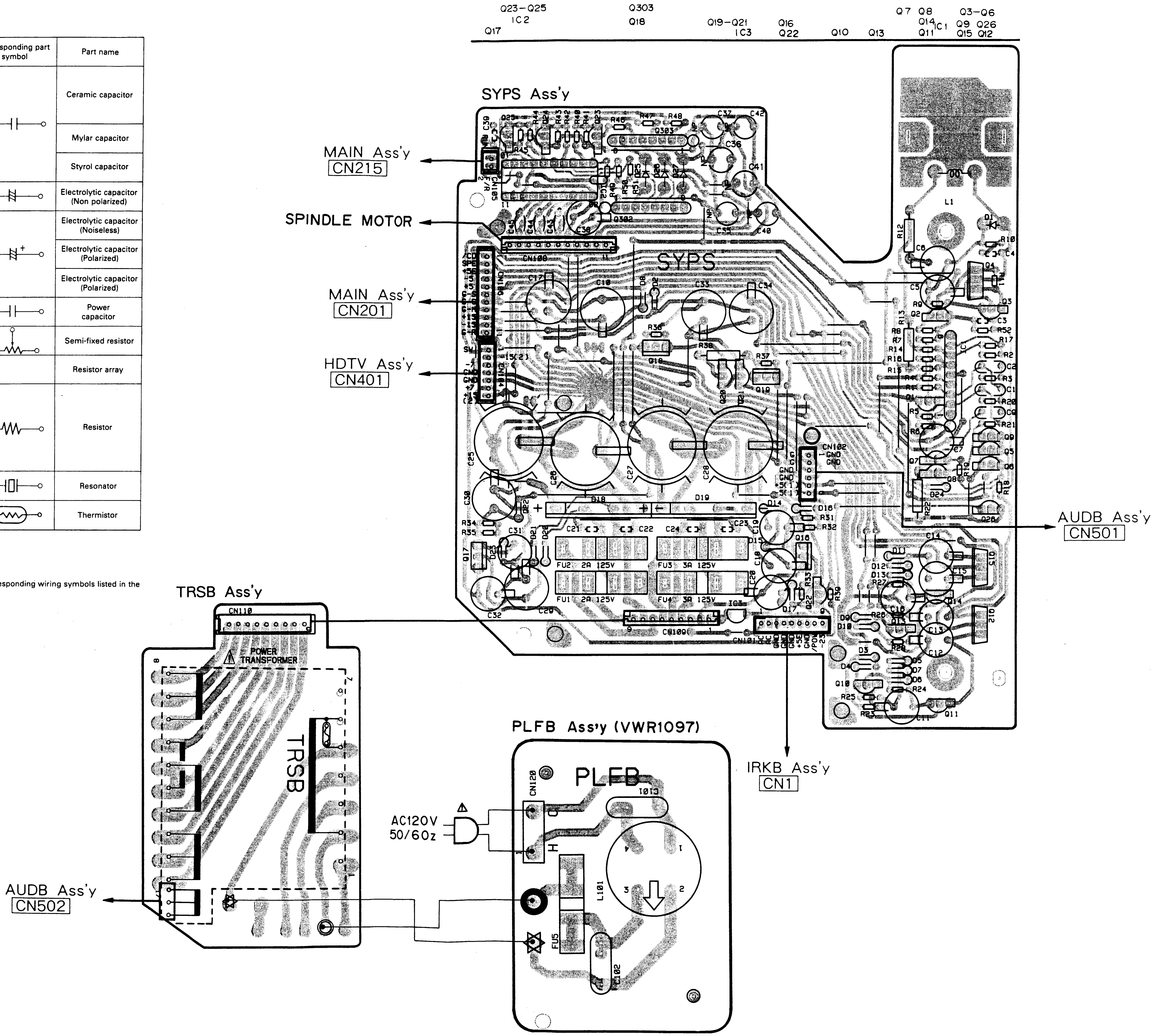
This P.C.B. connection diagram is viewed from the foil side.

5.2 SYPS, TRSB, PLFB ASSEMBLY

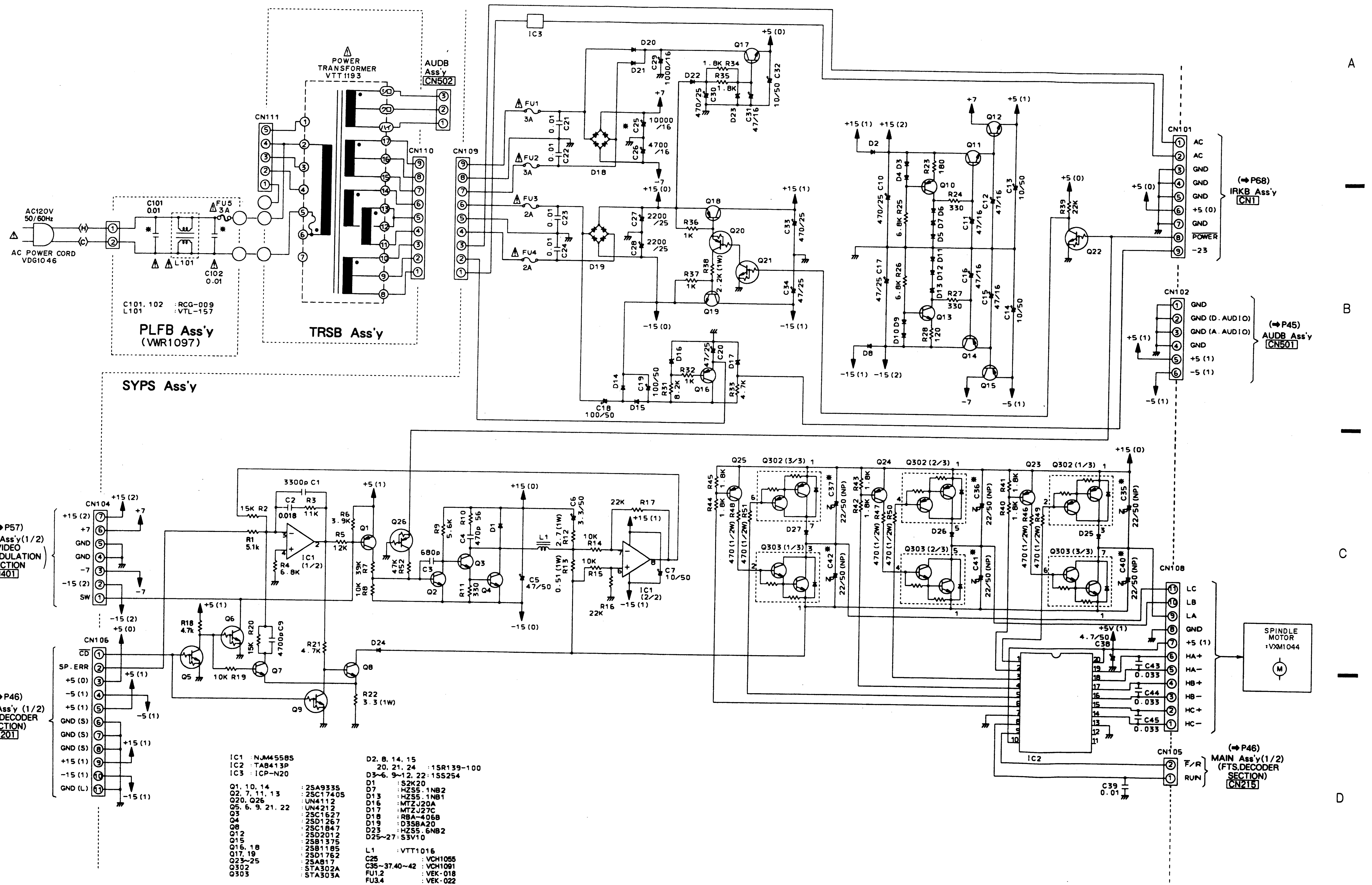


P.C.B. pattern diagram indication	Corresponding part symbol	Part name	P.C.B. pattern diagram indication	Corresponding part symbol	Part name
	or	Transistor			Ceramic capacitor
	or	FET			Mylar capacitor
		Diode	SA		Styrol capacitor
			NP		Electrolytic capacitor (Non polarized)
			N		Electrolytic capacitor (Noiseless)
		Zenner diode			Electrolytic capacitor (Polarized)
					Electrolytic capacitor (Polarized)
		LED			Power capacitor
		Varactor			Semi-fixed resistor
		Tact switch			Resistor array
		Inductor			Resistor
		Coil			Resonator
		Transformer			Thermistor
		Filter			

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.


Q17
Q23–Q25
IC2
Q303
Q18
Q19–Q21
IC3
Q16
Q22
Q10
Q13
Q7 Q8
Q14
IC1
Q11
Q3–Q6
Q9 Q26
Q15 Q12
SYPS Ass'y
MAIN Ass'y
CN215
SPINDLE MOTOR
MAIN Ass'y
CN201
HDTV Ass'y
CN401
SYPS
CN100
CN102
CN109
CN101
FU2 2A 125V
FU3 3A 125V
FU1 2A 125V
FU4 3A 125V
AUDB Ass'y
CN501
TRSB Ass'y
CN110
POWER TRANSFORMER
TRSB
AUDB Ass'y
CN502
AC120V
50/60z
PLFB Ass'y (VWR1097)
PLFB
CN120
L101
FU5
C102
IRKB Ass'y
CN1

CAUTION:FOR CONTINUED PROTECTION
AGAINST RISK OF FIRE REPLACE
WITH SAME TYPE NO. ICP-N20.
MFD BY ROHM CO.,LTD. FOR IC3

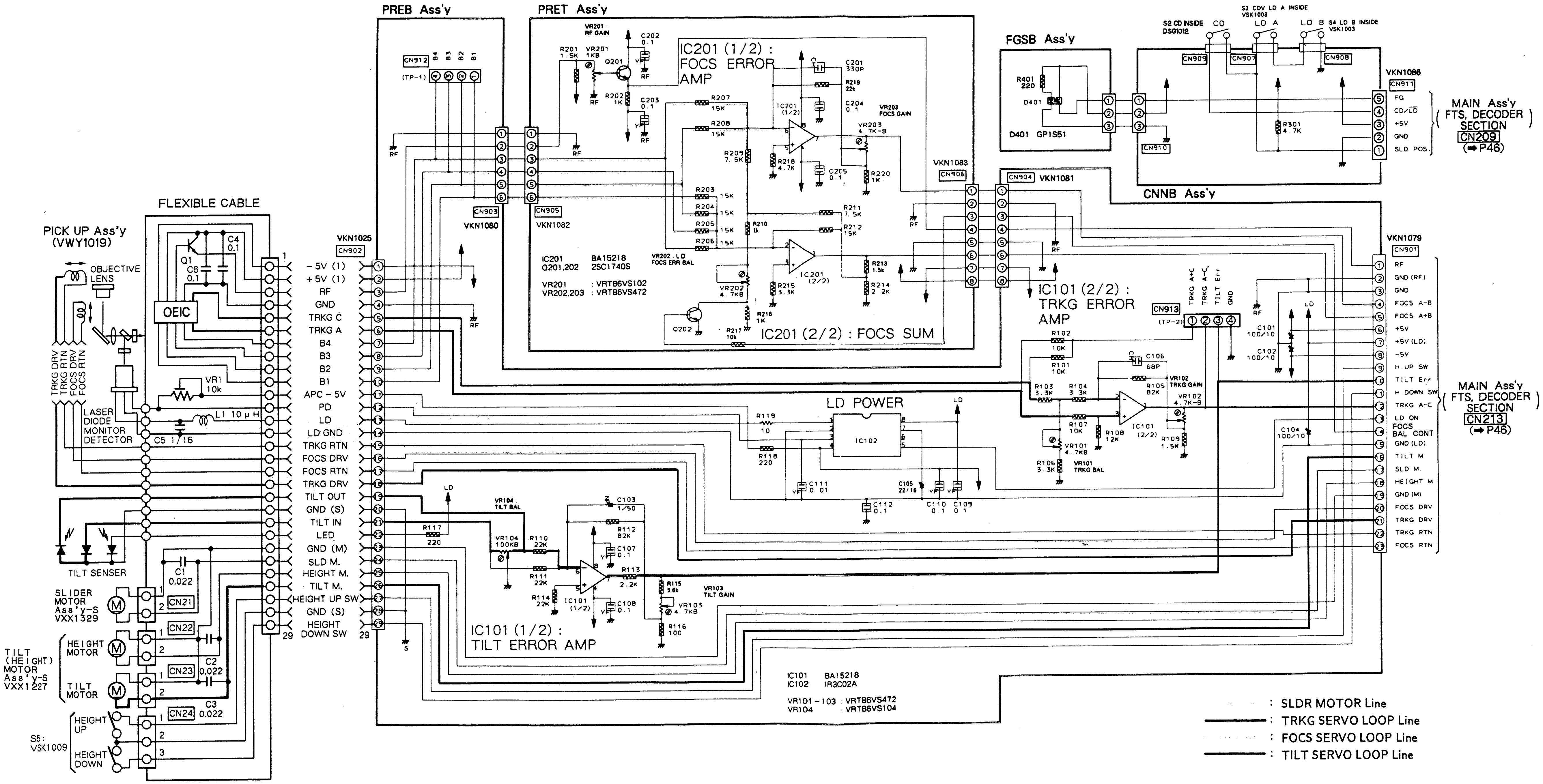


AC120V 50/60Hz
AC POWER CORD VDG1046
C101 0.01
FU5 3A
L101
C102 0.01
C101, 102 : RCG-009
L101 : VTL-157
PLFB Ass'y (VWR1097)
POWER TRANSFORMER VTT1193
CN111
CN110
TRSB Ass'y
AUDB Ass'y CN502
CN109
FU1 3A
FU2 3A
FU3 2A
FU4 2A
C21 0.01
C22 0.01
C23 0.01
C24 0.01
IC3
D18
D19
D20
D21
C29 1000/16
Q17
+5 (0)
D22
1.8K R34
R35 1.8K
C30 470/25
D23
C31 47/16
C32 10/50
C25 10000/16
C26 4700/16
+7
-7
+15 (0)
C27 2200/25
C28 2200/25
Q18
R36 1K
Q20
Q21
C33 470/25
C34 47/25
R37 1K
R38 2.2K (1W)
Q19
-15 (0)
+15 (1)
-15 (1)
D14
C19 100/50
R31 8.2K
R32 1K
Q16
D16
C20 47/25
D17
R33 4.7K
C18 100/50
D15
SYPS Ass'y
+15 (1) +15 (2)
D2
C10 470/25
D4 D3
R23 180
R25 6.8K
Q10
R24 330
Q11
Q12
+5 (1)
C12 47/16
C13 10/50
C11 47/16
D5 D7 D6
D11 D12 D13
C17 47/25
R26 6.8K
C16 47/16
C15 47/16
R27 330
C14 10/50
Q13
R28 120
D10 D9
D8
Q14
Q15
-15 (1) -15 (2)
-7
-5 (1)
R39 22K
Q22
CN101
AC
AC
GND
GND
GND
+5 (0)
GND
POWER
-23
(➡P68) IRKB Ass'y CN1
CN102
GND
GND (D.AUDIO)
GND (A.AUDIO)
GND
+5 (1)
-5 (1)
(➡P45) AUDB Ass'y CN501
CN104
+15 (2)
+7
GND
GND
-7
-15 (2)
SW
(➡P57) HDTV Ass'y(1/2) VIDEO DEMODULATION SECTION CN401
3300p C1
C2 0.018
R3 11K
15K R2
R1 5.1k
R4 6.8K
IC1 (1/2)
R6 3.9K
R5 12K
Q1
Q26
R7 39K
R8 10K
R52 47K
680p C3
Q2
R9 5.6K
R10 56
C4 470p
Q3
Q4
R11 330
D1
L1
C5 47/50
C6 3.3/50
R12 2.7 (1W)
R13 0.51 (1W)
R14 10K
R15 10K
R16 22K
22K R17
IC1 (2/2)
C7 10/50
CN106
CD
SP.ERR
+5 (0)
-5 (1)
+5 (1)
GND (S)
GND (S)
GND (S)
+15 (1)
-15 (1)
GND (L)
(➡P46) MAIN Ass'y (1/2) (FTS,DECODER SECTION) CN201
R18 4.7k
Q5
Q6
R20 15K
4700p C9
R19 10K
Q7
Q9
R21 4.7K
D24
Q8
R22 3.3 (1W)
Q25
Q302 (3/3)
Q24
Q302 (2/3)
Q23
Q302 (1/3)
R45 1.8K
R44 1.8K
R48 470 (1/2W)
R51 470 (1/2W)
C37 22/50 (NP)
C42 22/50 (NP)
D27
Q303 (1/3)
R43 1.8K
R42 1.8K
R47 470 (1/2W)
R50 470 (1/2W)
C36 22/50 (NP)
C41 22/50 (NP)
D26
Q303 (2/3)
R41 1.8K
R40 1.8K
R46 470 (1/2W)
R49 470 (1/2W)
C35 22/50 (NP)
C40 22/50 (NP)
D25
Q303 (3/3)
CN108
LC
LB
LA
GND
+5 (1)
HA+
HA-
HB+
HB-
HC+
HC-
+5V (1)
4.7/50 C38
C43 0.033
C44 0.033
C45 0.033
IC2
SPINDLE MOTOR VXM1044
M
CN105
F/R
RUN
(➡P46) MAIN Ass'y(1/2) (FTS,DECODER SECTION) CN215
C39 0.01

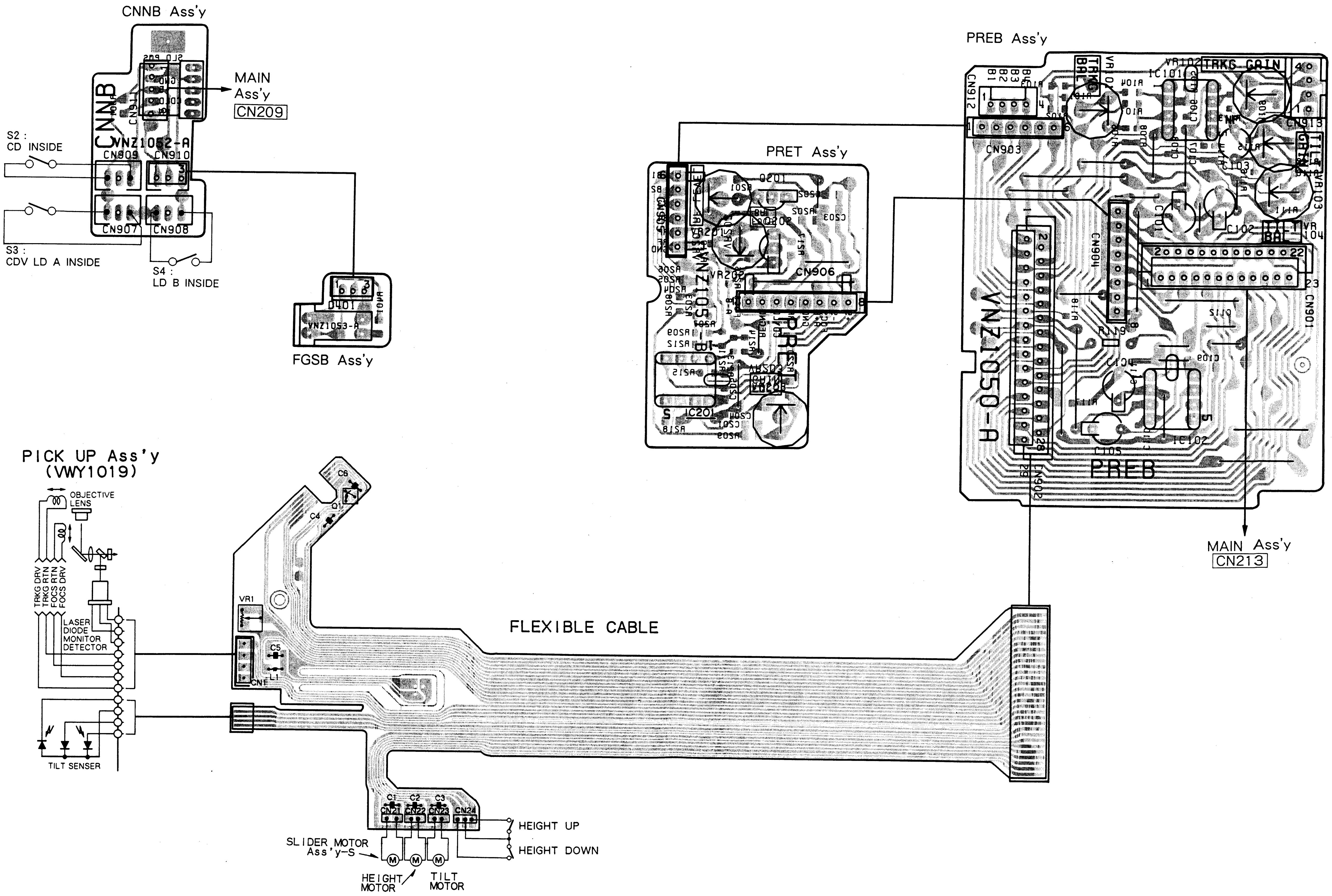
IC1	NJM4558S
IC2	TA8413P
IC3	ICP-N20
Q1, 10, 14	2SA933S
Q2, 7, 11, 13	2SC1740S
Q20, Q26	UN4112
Q5, 6, 9, 21, 22	UN4212
Q3	2SC1627
Q4	2SD1267
Q8	2SC1847
Q12	2SD2012
Q15	2SB1375
Q16, 18	2SB1185
Q17, 19	2SD1762
Q23~25	2SA817
Q302	STA302A
Q303	STA303A

D2, 8, 14, 15 20, 21, 24	1SR139-100
D3~6, 9~12, 22	1SS254
D1	S2K20
D7	HZS5.1NB2
D13	HZS5.1NB1
D16	MTZJ20A
D17	MTZJ27C
D18	RBA-406B
D19	D3SBA20
D23	HZS5.6NB2
D25~27	S3V10
L1	VTT1016
C25	VCH1055
C35~37,40~42	VCH1091
FU1,2	VEK-018
FU3,4	VEK-022

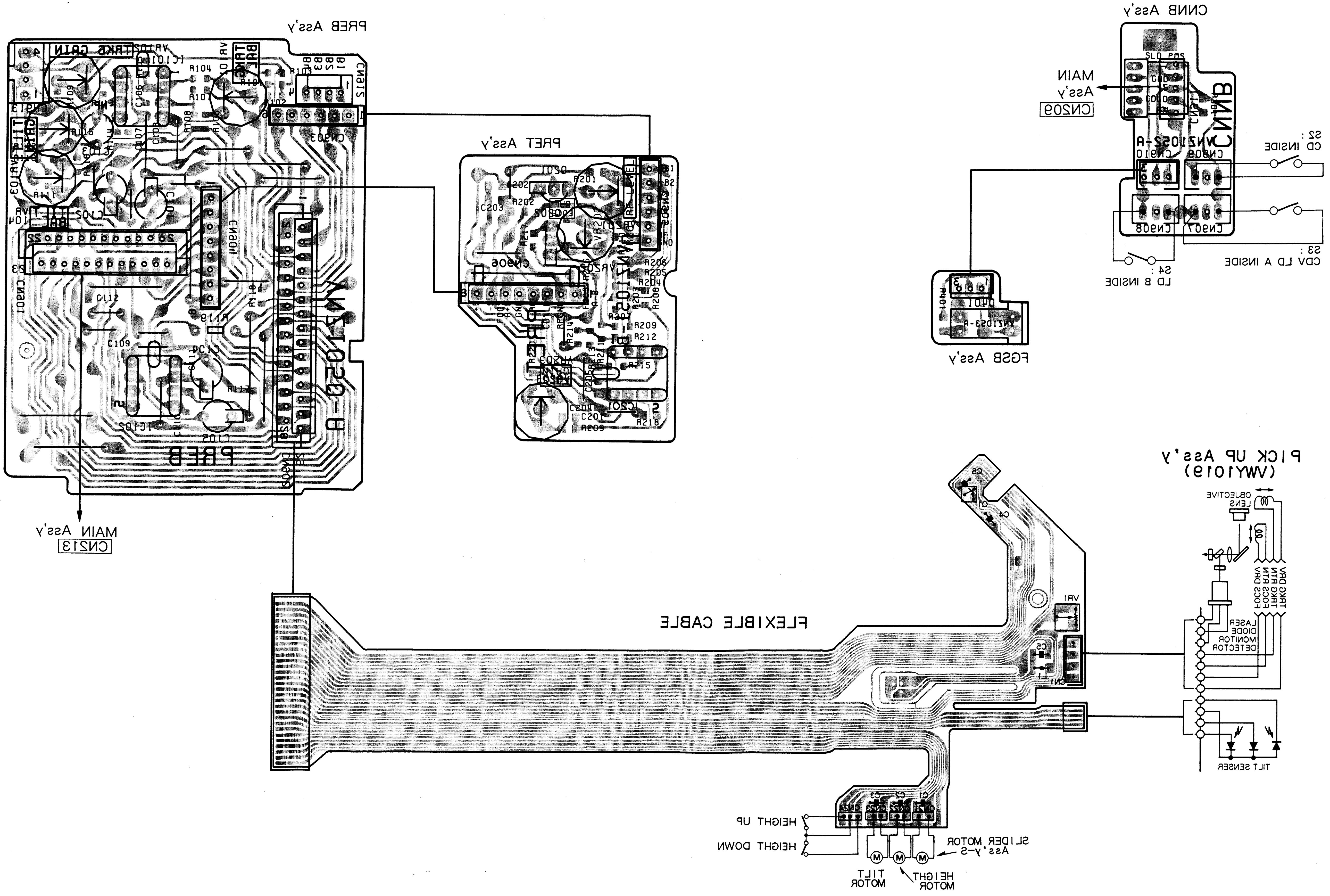
5.3 PREB, PRET, CNNB, FGSB, PICKUP ASSEMBLY


PREB Ass'y
PRET Ass'y
FGSB Ass'y
CNNB Ass'y
FLEXIBLE CABLE
PICK UP Ass'y (VWY1019)
OBJECTIVE LENS
OEIC
LASER DIODE
MONITOR DETECTOR
TILT SENSER
SLIDER MOTOR Ass'y-S VXX1329
TILT (HEIGHT) MOTOR Ass'y-S VXX1227
HEIGHT MOTOR
TILT MOTOR
S5: VSK1009
HEIGHT UP
HEIGHT DOWN
CN21
CN22
CN23
CN24
C1 0.022
C2 0.022
C3 0.022
C4 0.1
C5 1/16
C6 0.1
Q1
VR1 10k
L1 10μH
TRKG DRV
TRKG RTN
FOCS DRV
FOCS RTN
VKN1025
CN902
-5V (1)
+5V (1)
RF
GND
TRKG C
TRKG A
B4
B3
B2
B1
APC-5V
PD
LD
LD GND
TRKG RTN
FOCS DRV
FOCS RTN
TRKG DRV
TILT OUT
GND (S)
TILT IN
LED
GND (M)
SLD M.
HEIGHT M.
TILT M.
HEIGHT UP SW
GND (S)
HEIGHT DOWN SW
CN912
(TP-1)
CN903
VKN1080
CN905
VKN1082
IC201 (1/2) : FOCS ERROR AMP
IC201 (2/2) : FOCS SUM
IC201 BA15218
Q201,202 2SC1740S
VR201 : VRTB6VS102
VR202,203 : VRTB6VS472
VR201 RF GAIN
VR202 LD FOCS ERR BAL
VR203 FOCS GAIN
VKN1083
CN906
CN904
VKN1081
IC101 (2/2) : TRKG ERROR AMP
VR102 TRKG GAIN
VR101 TRKG BAL
CN913
(TP-2)
TRKG A+C
TRKG A-C
TILT Err
GND
LD POWER
IC102
IC101 (1/2) : TILT ERROR AMP
VR104 TILT BAL
VR103 TILT GAIN
IC101 BA15218
IC102 IR3C02A
VR101-103 : VRTB6VS472
VR104 : VRTB6VS104
R401 220
D401 GP1S51
S2 CD INSIDE DS01012
S3 CDV LD A INSIDE VSK1003
S4 LD B INSIDE VSK1003
CN909
CN907
CN908
CN910
R301 4.7K
VKN1086
CN911
FG
CD/LD
+5V
GND
SLD POS.
MAIN Ass'y (FTS, DECODER SECTION)
CN209
(➡P46)
VKN1079
CN901
RF
GND (RF)
GND
FOCS A-B
FOCS A+B
+5V
+5V (LD)
-5V
H UP SW
TILT Err
H DOWN SW
TRKG A-C
LD ON
FOCS BAL CONT
GND (LD)
TILT M
SLD M.
HEIGHT M
GND (M)
FOCS DRV
TRKG DRV
TRKG RTN
FOCS RTN
MAIN Ass'y (FTS, DECODER SECTION)
CN213
(➡P46)

: SLDR MOTOR Line
: TRKG SERVO LOOP Line
: FOCS SERVO LOOP Line
: TILT SERVO LOOP Line

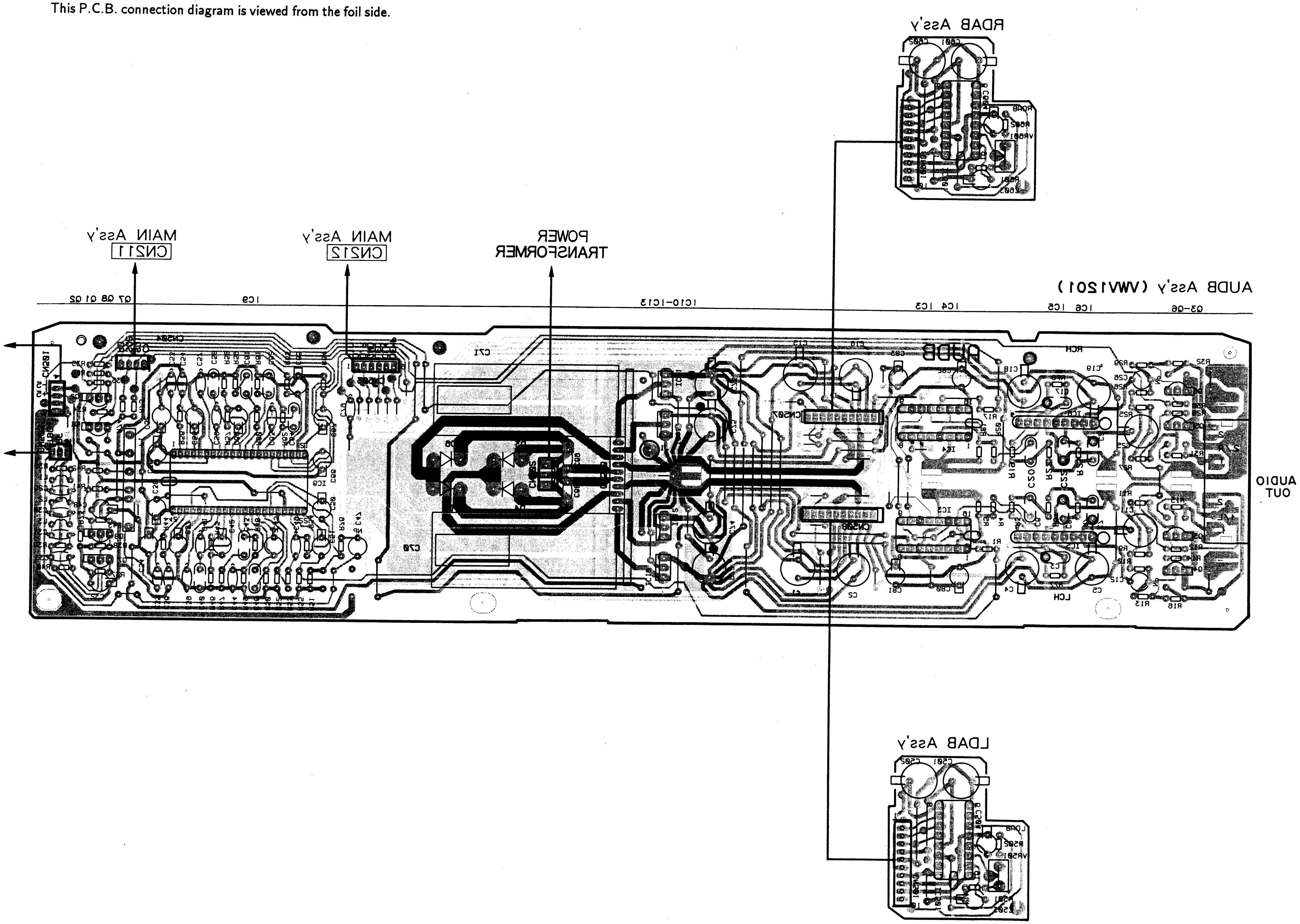

CNNB Ass'y
CNNB
VNZ1052-A
CN911
CN909
CN910
CN907
CN908
MAIN
Ass'y
CN209
S2 :
CD INSIDE
S3 :
CDV LD A INSIDE
S4 :
LD B INSIDE
FGSB Ass'y
D401
VNZ1053-A
PRET Ass'y
VNZ1051-B
PRET
CN905
CN906
VR201
VR202
IC201
Q201
PREB Ass'y
PREB
VNZ1050-A
CN912
CN903
CN904
CN901
CN902
CN913
IC101
IC102
VR101
VR102
VR103
VR104
TRKG GAIN
TRKG BAL
TILT GAIN
TILT BAL
MAIN Ass'y
CN213
PICK UP Ass'y
(VWY1019)
OBJECTIVE
LENS
TRKG DRV
TRKG RTN
FOCS RTN
FOCS DRV
LASER
DIODE
MONITOR
DETECTOR
TILT SENSER
FLEXIBLE CABLE
VR1
C4
C5
C6
Q1
L1
CN1
C1
C2
C3
CN21
CN22
CN23
CN24
HEIGHT UP
HEIGHT DOWN
SLIDER MOTOR
Ass'y-S
HEIGHT
MOTOR
TILT
MOTOR
M

This P.C.B. connection diagram is viewed from the foil side.

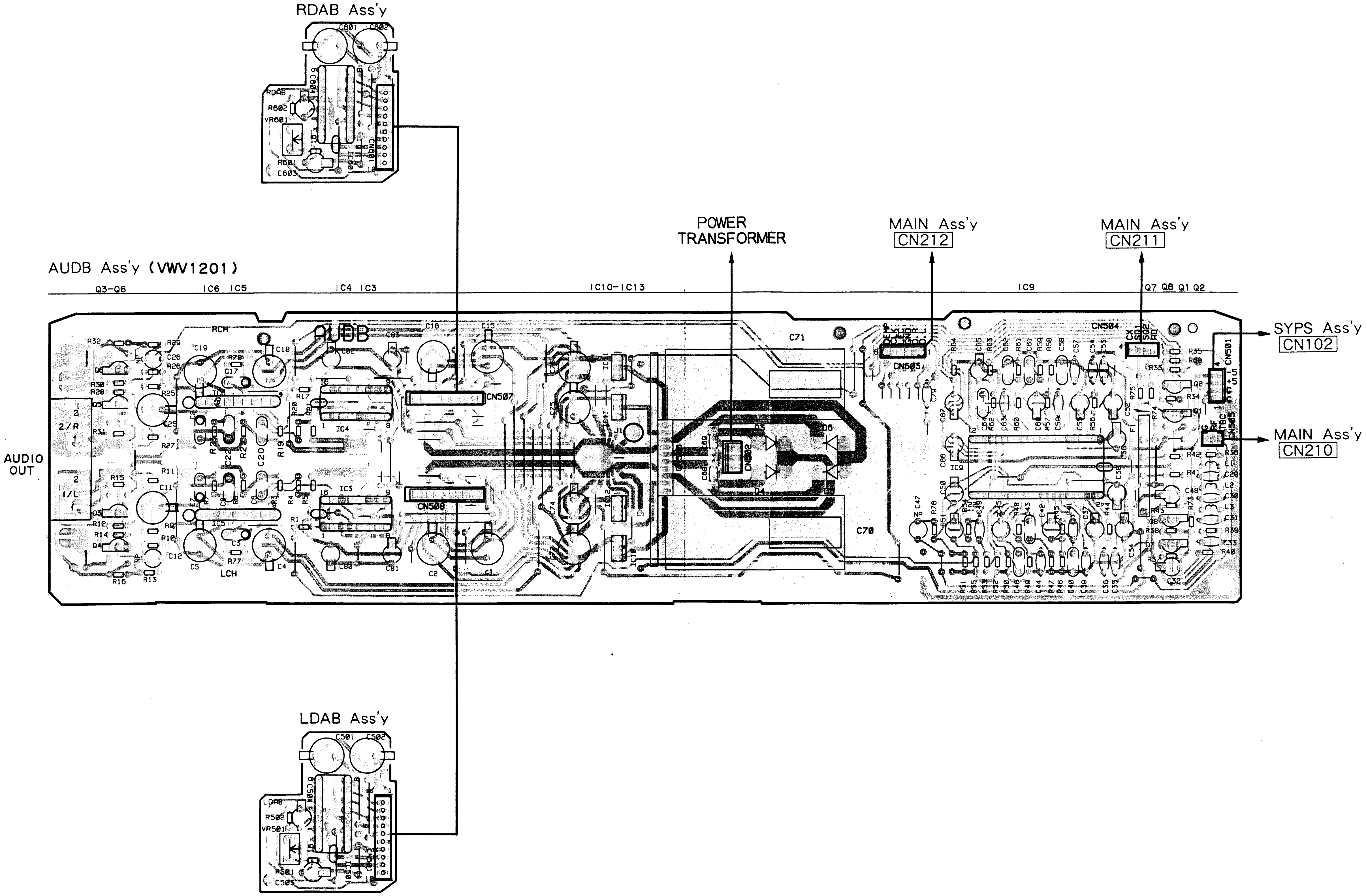

PREB Ass'y
PRET Ass'y
CNNB Ass'y
FGSB Ass'y
PICK UP Ass'y
(VWY1019)
FLEXIBLE CABLE
MAIN Ass'y
CN213
MAIN Ass'y
CN209
S2 : CD INSIDE
S3 : CDV LD A INSIDE
S4 : LD B INSIDE
CN901
CN903
CN906
CN908
CN909
CN910
CN907
CN913
VWZ1050-B
VWZ1052-A
VWZ1053-A
OBJECTIVE LENS
LASER DIODE
MONITOR DETECTOR
TILT SENSER
FOCS DRV
FOCS RTN
TRK DRV
TRK RTN
HEIGHT UP
HEIGHT DOWN
SLIDER MOTOR
Ass'y-S
TILT MOTOR
HEIGHT MOTOR

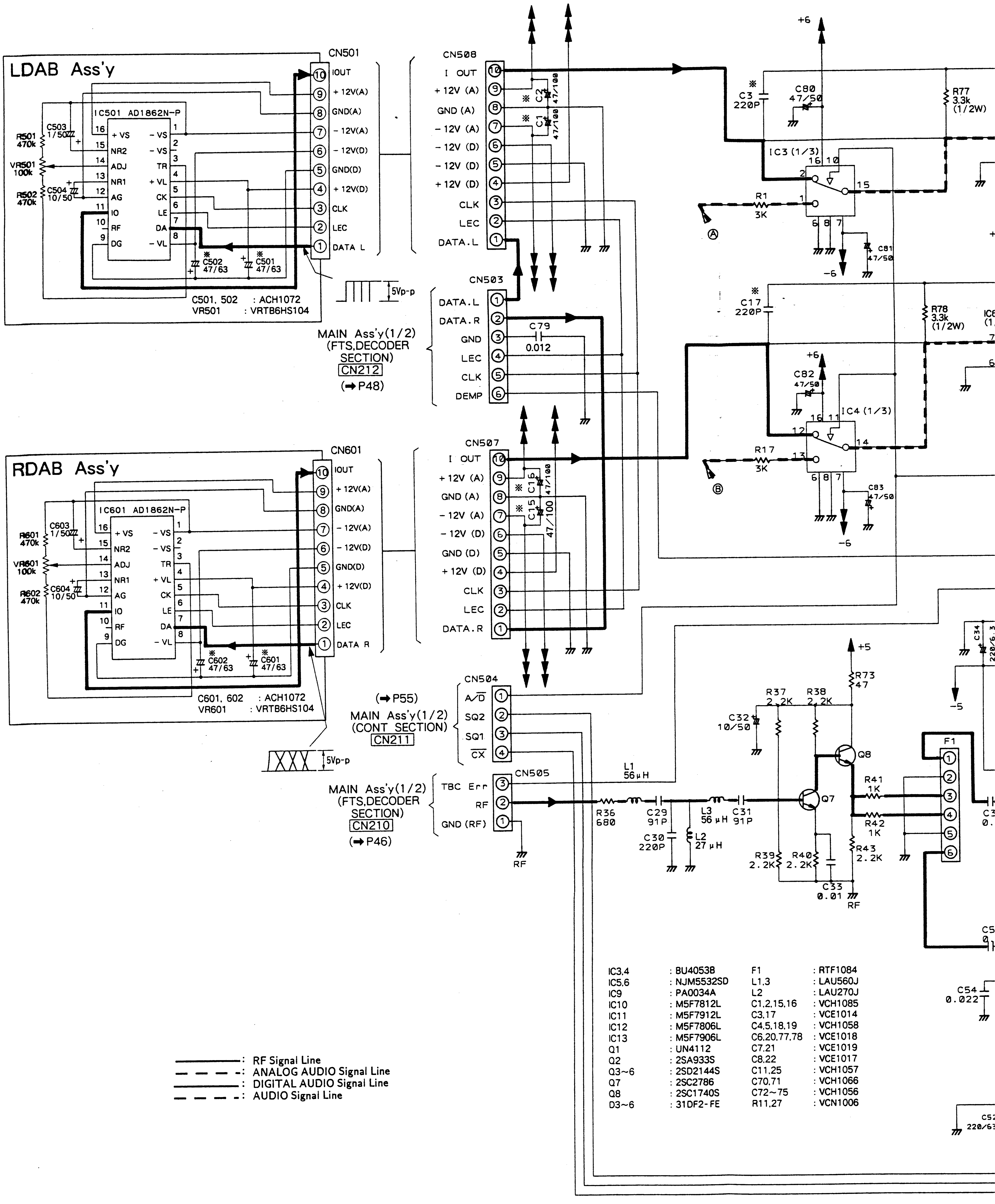
5.4 AUDB, RDAB, LDAB ASSEMBLY

This P.C.B. connection diagram is viewed from the foil side.


RDAB Ass'y
MAIN Ass'y
CN211
MAIN Ass'y
CN212
POWER
TRANSFORMER
AUDB Ass'y (VWV1201)
SYPS Ass'y
CN102
MAIN Ass'y
CN210
AUDIO
OUT
LDAB Ass'y

5.4 AUDB, RDAB, LDAB ASSEMBLY

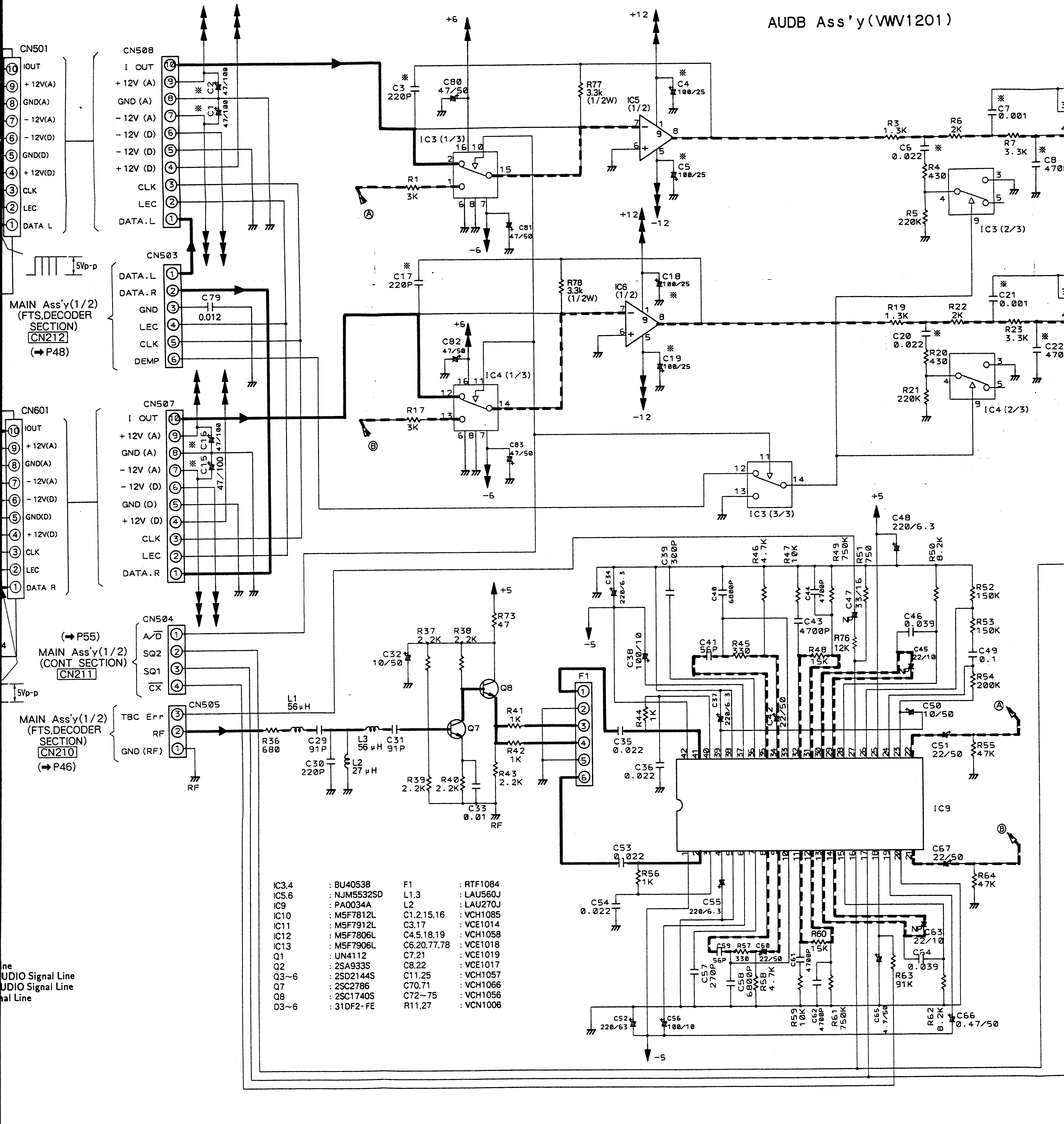

RDAB Ass'y
POWER TRANSFORMER
MAIN Ass'y
CN212
MAIN Ass'y
CN211
AUDB Ass'y (VWV1201)
Q3–Q6
IC6 IC5
IC4 IC3
IC10–IC13
IC9
Q7 Q8 Q1 Q2
SYPS Ass'y
CN102
MAIN Ass'y
CN210
AUDIO OUT
AUDB
RCH
LCH
CN507
CN508
CN502
CN503
CN504
CN501
CN505
C70
C71
LDAB Ass'y


1
2
3
4
A
B
C
D
E
F
LDAB Ass'y
CN501
IC501 AD1862N-P
+VS
NR2
ADJ
NR1
AG
IO
RF
DG
-VS
-VS
TR
+VL
CK
LE
DA
-VL
R501 470k
VR501 100k
R502 470k
C503 1/50
C504 10/50
C502 47/63
C501 47/63
IOUT
+12V(A)
GND(A)
-12V(A)
-12V(D)
GND(D)
+12V(D)
CLK
LEC
DATA L
C501, 502 : ACH1072
VR501 : VRTB6HS104
5Vp-p
CN508
I OUT
+12V (A)
GND (A)
-12V (A)
-12V (D)
-12V (D)
+12V (D)
CLK
LEC
DATA.L
C2 47/100
C1 47/100
CN503
DATA.L
DATA.R
GND
LEC
CLK
DEMP
C79 0.012
MAIN Ass'y(1/2)
(FTS,DECODER SECTION)
CN212
(➡P48)
RDAB Ass'y
CN601
IC601 AD1862N-P
R601 470k
VR601 100k
R602 470k
C603 1/50
C604 10/50
C602 47/63
C601 47/63
DATA R
C601, 602 : ACH1072
VR601 : VRTB6HS104
5Vp-p
CN507
I OUT
+12V (A)
GND (A)
-12V (A)
-12V (D)
GND (D)
+12V (D)
CLK
LEC
DATA.R
C16 47/100
C15 47/100
CN504
A/D
SQ2
SQ1
CX
(➡P55)
MAIN Ass'y(1/2)
(CONT SECTION)
CN211
CN505
TBC Err
RF
GND (RF)
MAIN Ass'y(1/2)
(FTS,DECODER SECTION)
CN210
(➡P46)
RF
L1 56μH
R36 680
C29 91P
C30 220P
L2 27μH
L3 56μH
C31 91P
+5
R73 47
R37 2.2K
R38 2.2K
C32 10/50
Q8
Q7
R39 2.2K
R40 2.2K
C33 0.01
R41 1K
R42 1K
R43 2.2K
F1
+6
C3 220P
C80 47/50
R77 3.3k (1/2W)
IC3 (1/3)
R1 3K
Ⓐ
C81 47/50
-6
C17 220P
R78 3.3k (1/2W)
+6
C82 47/50
IC4 (1/3)
R17 3K
Ⓑ
C83 47/50
-6
-5
C34 220/6.3
C54 0.022

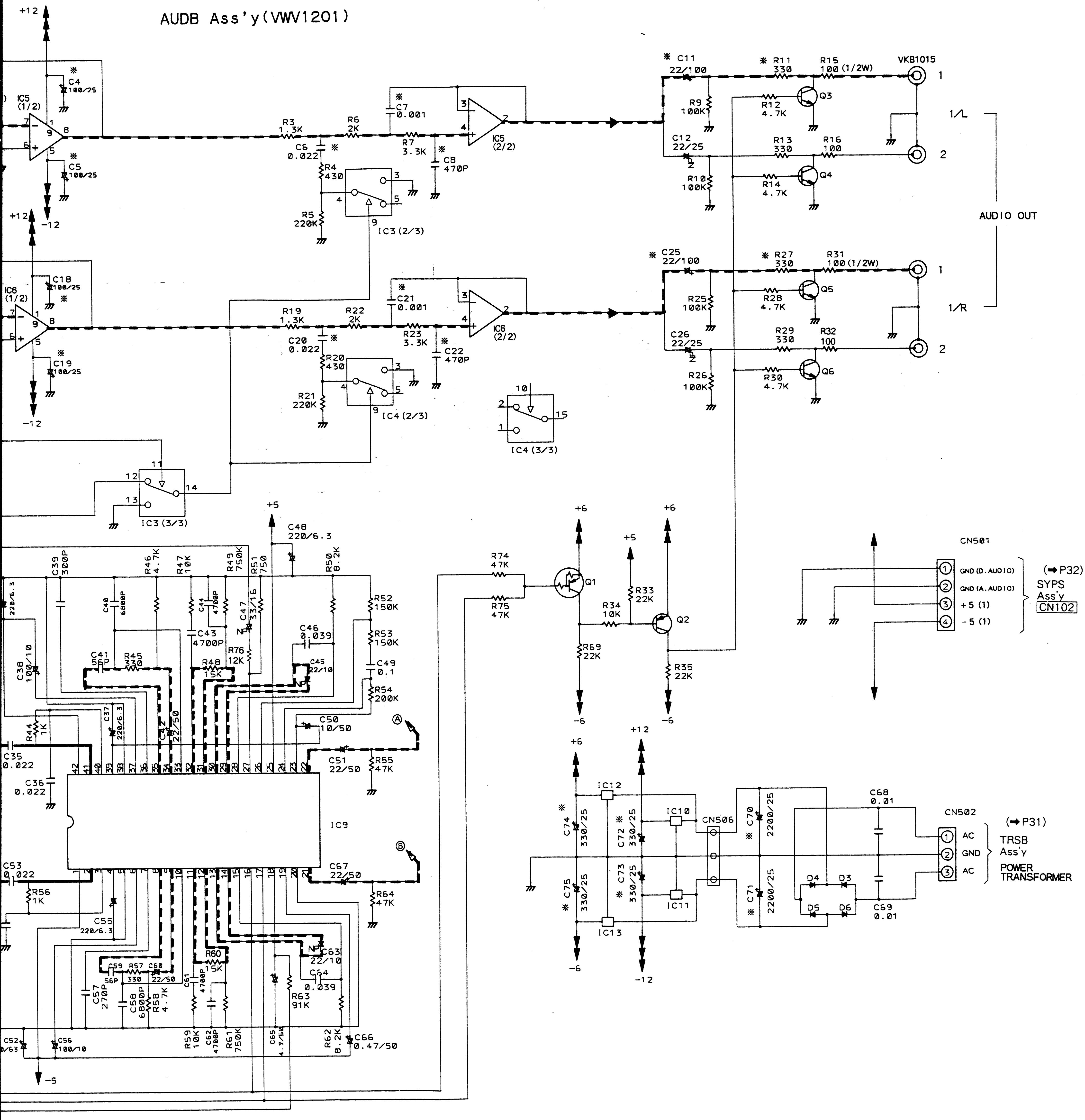
IC3,4	: BU4053B	F1	: RTF1084
IC5,6	: NJM5532SD	L1,3	: LAU560J
IC9	: PA0034A	L2	: LAU270J
IC10	: M5F7812L	C1,2,15,16	: VCH1085
IC11	: M5F7912L	C3,17	: VCE1014
IC12	: M5F7806L	C4,5,18,19	: VCH1058
IC13	: M5F7906L	C6,20,77,78	: VCE1018
Q1	: UN4112	C7,21	: VCE1019
Q2	: 2SA933S	C8,22	: VCE1017
Q3~6	: 2SD2144S	C11,25	: VCH1057
Q7	: 2SC2786	C70,71	: VCH1066
Q8	: 2SC1740S	C72~75	: VCH1056
D3~6	: 31DF2-FE	R11,27	: VCN1006

———— : RF Signal Line
— — — : ANALOG AUDIO Signal Line
———— : DIGITAL AUDIO Signal Line
— — — : AUDIO Signal Line

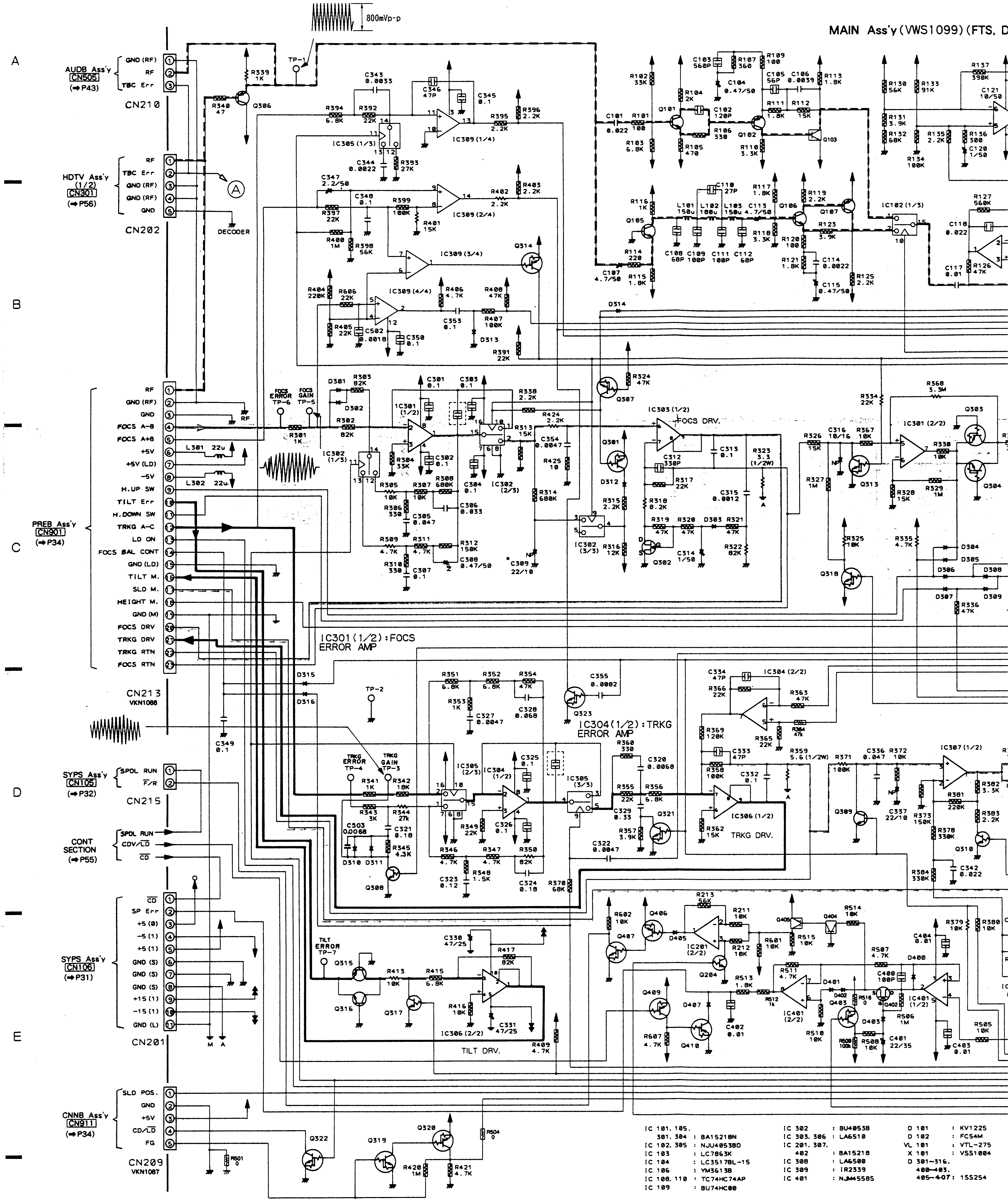
Pion 2057


AUDB Ass'y(VWV1201)
CN501
IOUT
+12V(A)
GND(A)
-12V(A)
-12V(D)
GND(D)
+12V(D)
CLK
LEC
DATA L
CN508
I OUT
+12V (A)
GND (A)
-12V (A)
-12V (D)
-12V (D)
+12V (D)
CLK
LEC
DATA.L
C1 47/100
C2 47/100
CN503
DATA.L
DATA.R
GND
LEC
CLK
DEMP
C79 0.012
5Vp-p
MAIN Ass'y(1/2) (FTS,DECODER SECTION) CN212 (→P48)
CN601
CN507
C15 47/100
C16 47/100
DATA.R
CN504
A/D
SQ2
SQ1
CX
(→P55)
MAIN Ass'y(1/2) (CONT SECTION) CN211
CN505
TBC Err
RF
GND (RF)
MAIN Ass'y(1/2) (FTS,DECODER SECTION) CN210 (→P46)
C3 220P
C80 47/50
R77 3.3k (1/2W)
IC5 (1/2)
C4 100/25
C5 100/25
IC3 (1/3)
R1 3K
C81 47/50
C17 220P
R78 3.3k (1/2W)
IC6 (1/2)
C18 100/25
C19 100/25
C82 47/50
IC4 (1/3)
R17 3K
C83 47/50
IC3 (3/3)
R3 1.3K
R6 2K
C7 0.001
R7 3.3K
C8 470
C6 0.022
R4 430
R5 220K
IC3 (2/3)
R19 1.3K
R22 2K
C21 0.001
R23 3.3K
C22 470
C20 0.022
R20 430
R21 220K
IC4 (2/3)
+6
+12
-12
-6
+5
R73 47
R37 2.2K
R38 2.2K
C32 10/50
Q8
Q7
L1 56μH
R36 680
C29 91P
L3 56μH
C31 91P
C30 220P
L2 27μH
R41 1K
R42 1K
R43 2.2K
R39 2.2K
R40 2.2K
C33 0.01
RF
F1
C48 220/6.3
C39 300P
C34 220/6.3
C40 6800P
R46 4.7K
R47 10K
C44 4700P
R49 750K
R51 750
C47 33/16
R50 8.2K
R52 150K
R53 150K
C46 0.039
C43 4700P
R76 12K
C41 56P
R45 330
R48 15K
C45 22/10
C49 0.1
R54 200K
C38 100/10
C37 220/6.3
C42 22/50
R44 1K
C50 10/50
C35 0.022
C36 0.022
C51 22/50
R55 47K
IC9
C53 0.022
R56 1K
C67 22/50
R64 47K
C54 0.022
C55 220/6.3
C63 22/10
C64 0.039
R60 15K
C59 56P
R57 330
C60 22/50
C61 4700P
C57 270P
C58 6800P
R58 4.7K
R59 10K
C62 4700P
R61 750K
C65 4.7/50
R63 91K
R62 8.2K
C66 0.47/50
C52 220/63
C56 100/10
-5
NP
ine
UDIO Signal Line
UDIO Signal Line
al Line

IC3,4	: BU4053B	F1	: RTF1084
IC5,6	: NJM5532SD	L1,3	: LAU560J
IC9	: PA0034A	L2	: LAU270J
IC10	: M5F7812L	C1,2,15,16	: VCH1085
IC11	: M5F7912L	C3,17	: VCE1014
IC12	: M5F7806L	C4,5,18,19	: VCH1058
IC13	: M5F7906L	C6,20,77,78	: VCE1018
Q1	: UN4112	C7,21	: VCE1019
Q2	: 2SA933S	C8,22	: VCE1017
Q3~6	: 2SD2144S	C11,25	: VCH1057
Q7	: 2SC2786	C70,71	: VCH1066
Q8	: 2SC1740S	C72~75	: VCH1056
D3~6	: 31DF2-FE	R11,27	: VCN1006


AUDB Ass'y(VWV1201)
+12
-12
IC5 (1/2)
C4 100/25
C5 100/25
R3 1.3K
R6 2K
C6 0.022
R4 430
R5 220K
C7 0.001
R7 3.3K
C8 470P
IC5 (2/2)
IC3 (2/3)
IC6 (1/2)
C18 100/25
C19 100/25
R19 1.3K
R22 2K
C20 0.022
R20 430
R21 220K
C21 0.001
R23 3.3K
C22 470P
IC6 (2/2)
IC4 (2/3)
IC4 (3/3)
IC3 (3/3)
C11 22/100
R11 330
R15 100 (1/2W)
VKB1015
R9 100K
R12 4.7K
Q3
C12 22/25
R13 330
R16 100
R10 100K
R14 4.7K
Q4
1/L
AUDIO OUT
C25 22/100
R27 330
R31 100 (1/2W)
R25 100K
R28 4.7K
Q5
C26 22/25
R29 330
R32 100
R26 100K
R30 4.7K
Q6
1/R
+5
C48 220/6.3
C39 300P
R46 4.7K
R47 10K
R49 750K
R51 750
R50 8.2K
C40 6800P
C44 4700P
C47 33/16
R52 150K
R53 150K
C43 4700P
C46 0.039
C41 56P
R45 330
R48 15K
R76 12K
C45 22/10
C49 0.1
R54 200K
C38 100/10
C37 220/6.3
C42 22/50
C50 10/50
Ⓐ
R44 1K
C35 0.022
C36 0.022
C51 22/50
R55 47K
IC9
Ⓑ
C53 0.022
R56 1K
C67 22/50
R64 47K
C55 220/6.3
C63 22/10
C59 56P
R57 330
C60 22/50
R60 15K
C64 0.039
C57 270P
C58 6800P
R58 4.7K
C61 4700P
R63 91K
C52
C56 100/10
R59 10K
C62 4700P
R61 750K
C65 4.7/50
R62 8.2K
C66 0.47/50
-5
+6
R74 47K
R75 47K
Q1
R34 10K
R33 22K
Q2
R69 22K
R35 22K
-6
CN501
GND (D.AUDIO)
GND (A.AUDIO)
+5 (1)
-5 (1)
(➡P32)
SYPS Ass'y
CN102
IC12
IC10
CN506
C74 330/25
C72 330/25
C70 2200/25
C68 0.01
CN502
AC
GND
(➡P31)
TRSB Ass'y
POWER TRANSFORMER
C75 330/25
C73 330/25
C71 2200/25
D4
D3
D5
D6
C69 0.01
IC11
IC13
-12

5.5 MAIN ASSEMBLY(FTS, DECODER SECTION)

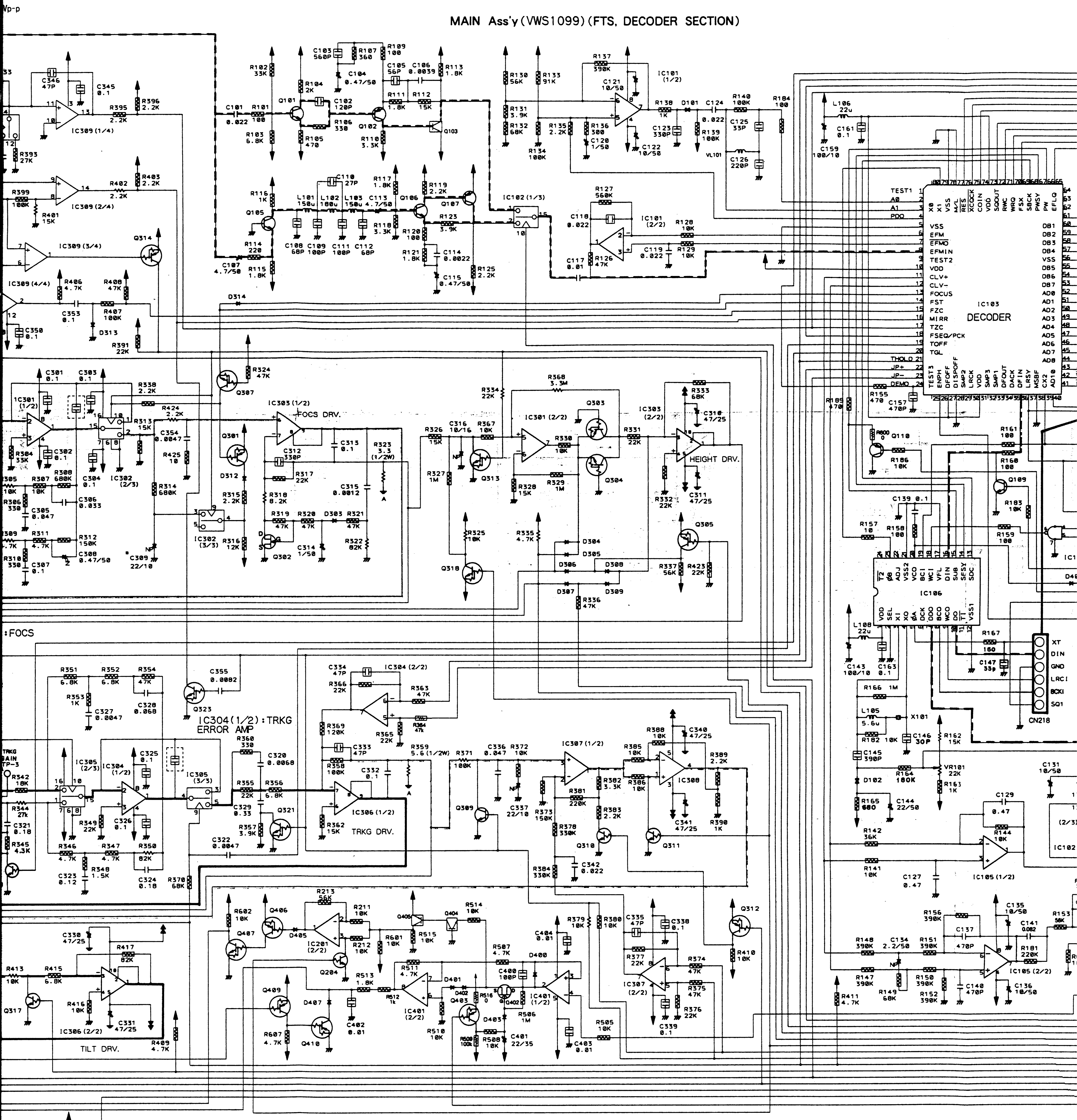

MAIN Ass'y (VWS1099) (FTS, D
800mVp-p
AUDB Ass'y CN505 (➡P43)
GND (RF)
RF
TBC Err
CN210
HDTV Ass'y (1/2) CN301 (➡P56)
RF
TBC Err
GND (RF)
GND (RF)
GND
CN202
DECODER
PREB Ass'y CN901 (➡P34)
RF
GND (RF)
GND
FOCS A-B
FOCS A+B
+5V
+5V (LD)
-5V
H.UP SW
TILT Err
H.DOWN SW
TRKG A-C
LD ON
FOCS BAL CONT
GND (LD)
TILT M.
SLD M.
HEIGHT M.
GND (M)
FOCS DRV
TRKG DRV
TRKG RTN
FOCS RTN
CN213 VKN1088
SYPS Ass'y CN105 (➡P32)
SPDL RUN
F/R
CN215
CONT SECTION (➡P55)
SPDL RUN
CDV/LD
CD
SYPS Ass'y CN106 (➡P31)
CD
SP Err
+5 (0)
-5 (1)
+5 (1)
GND (S)
GND (S)
GND (S)
+15 (1)
-15 (1)
GND (L)
CN201
CNNB Ass'y CN911 (➡P34)
SLD POS.
GND
+5V
CD/LD
FG
CN209 VKN1087
IC301(1/2):FOCS ERROR AMP
IC304(1/2):TRKG ERROR AMP
FOCS DRV.
TRKG DRV.
TILT DRV.
FOCS ERROR TP-6
FOCS GAIN TP-5
TRKG ERROR TP-4
TRKG GAIN TP-3
TILT ERROR TP-7
TP-1
TP-2
IC305(1/3)
IC309(1/4)
IC309(2/4)
IC309(3/4)
IC309(4/4)
IC301(1/2)
IC302(1/3)
IC302(2/3)
IC302(3/3)
IC303(1/2)
IC301(2/2)
IC304(2/2)
IC305(2/3)
IC304(1/2)
IC305(3/3)
IC306(1/2)
IC306(2/2)
IC307(1/2)
IC201(2/2)
IC401(2/2)
IC401(1/2)
IC102(1/3)
A
M
A

IC 101, 105,
301, 304 : BA15218N
IC 102, 305 : NJU4053BD
IC 103 : LC7863K
IC 104 : LC3517BL-15
IC 106 : YM3613B
IC 108, 110 : TC74HC74AP
IC 109 : BU74HC00

IC 302 : BU4053B
IC 303, 306 : LA6510
IC 201, 307,
402 : BA15218
IC 308 : LA6500
IC 309 : IR2339
IC 401 : NJM4558S

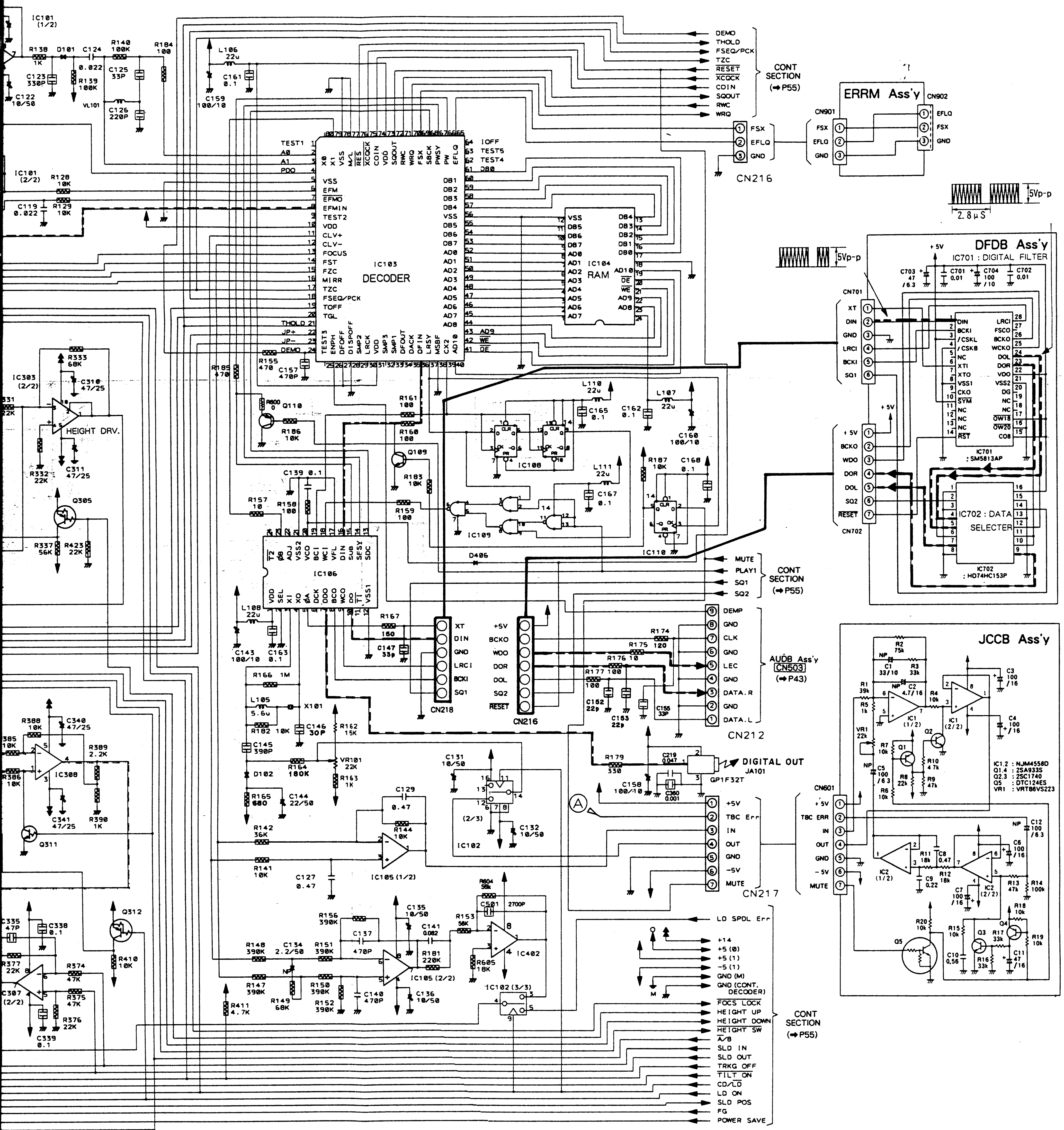
D 101 : KV1225
D 102 : FC54M
VL 101 : VTL-275
X 101 : VSS1004
D 301~316,
400~403,
405~407 : 1SS254

MAIN Ass'y (VWS1099) (FTS, DECODER SECTION)


Vp-p
IC309 (1/4)
IC309 (2/4)
IC309 (3/4)
IC309 (4/4)
IC101 (1/2)
IC101 (2/2)
IC102 (1/3)
IC103
DECODER
IC301 (1/2)
IC302 (2/3)
IC302 (3/3)
IC303 (1/2)
FOCS DRV.
IC301 (2/2)
IC303 (2/2)
HEIGHT DRV.
IC106
:FOCS
IC304 (1/2): TRKG ERROR AMP
IC304 (2/2)
IC305 (2/3)
IC305 (3/3)
IC306 (1/2)
TRKG DRV.
IC307 (1/2)
IC308
IC201 (2/2)
IC401 (1/2)
IC401 (2/2)
IC307 (2/2)
IC306 (2/2)
TILT DRV.
IC105 (1/2)
IC105 (2/2)
IC102
CN218
XT
DIN
GND
LRCI
BCKI
SQI
TRKG GAIN TP-3

IC 101, 105, 301, 304	BA15218N
IC 102, 305	NJU4053BD
IC 103	LC7863K
IC 104	LC35178L-15
IC 106	YM3613B
IC 108, 110	TC74HC74AP
IC 109	BU74HC00
IC 302	BU4053B
IC 303, 306	LA6510
IC 201, 307, 402	BA15218
IC 308	LA6500
IC 309	IR2339
IC 401	NJM4558S
D 101	KV1225
D 102	FC54M
VL 101	VTL-275
X 101	VSS1004
D 301~316, 400~403, 405~407	1SS254
Q 101, 105, 106, 109, 309, 316	2SC1740S
Q 102, 107, 110, 306, 315	2SA933S
Q 301, 303, 305, 312, 314	UN4112
Q 302, 402	2SK184
Q 304, 307, 313 318, 321	UN4212
Q 320, 403, 406, 409, 410	DTA124EK
Q 319, 322, 323, 407	DTC124EK
Q 405	2SA1037K
Q 103, 404	2SC2412K
Q 204, 308, 310, 311, 317	UN4215
C309	VCH1067
L101, 103	LAU151K
L102	LAU181J
L105	LAU5R6J
L106, 107, 110, 111	LFA220J
L108, 301, 302	LAU220J

ECODER SECTION)



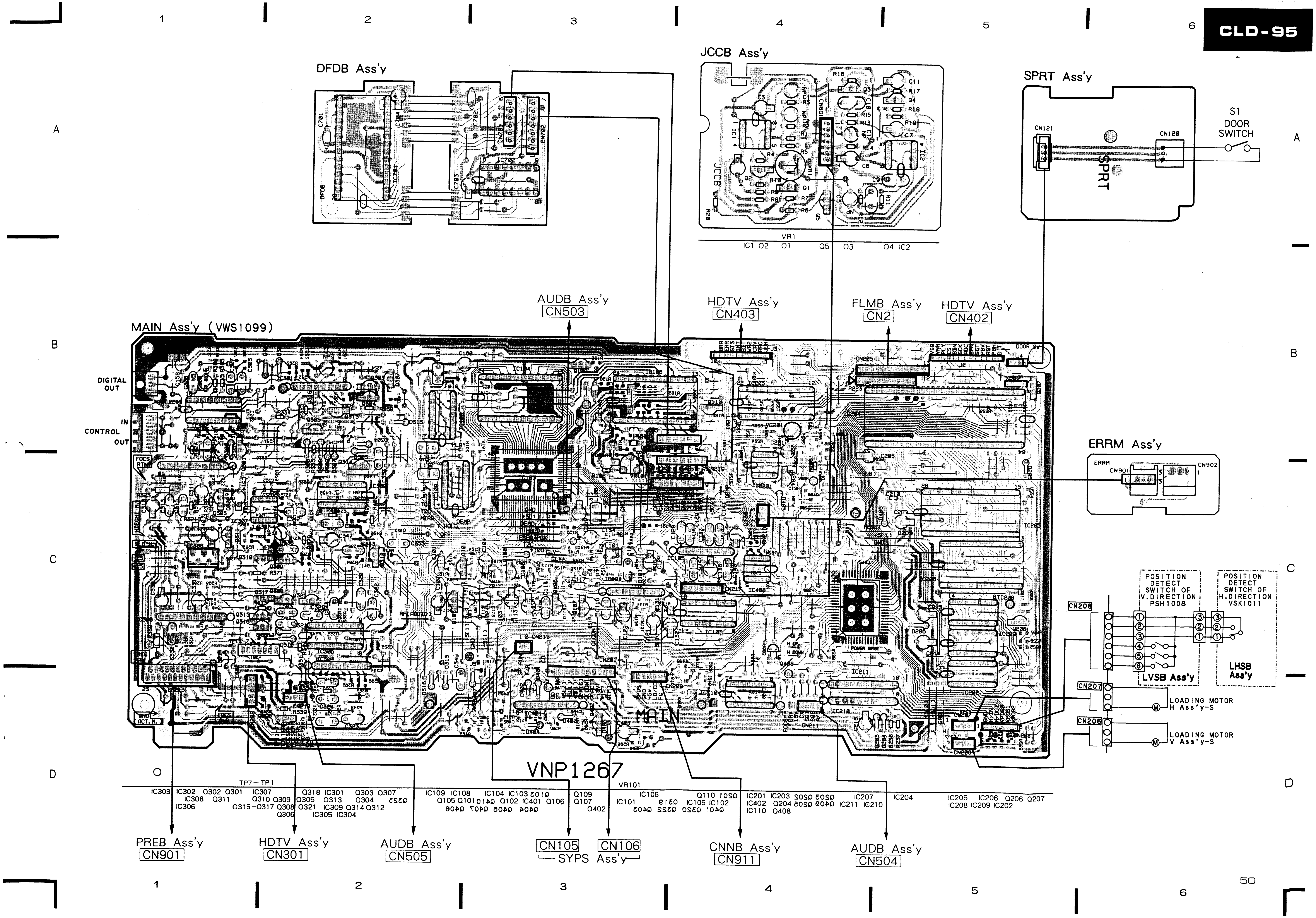
IC101 (1/2)
IC101 (2/2)
IC103 DECODER
IC104 RAM
IC106
IC108
IC109
IC110
IC102 (2/3)
IC102 (3/3)
IC105 (1/2)
IC105 (2/2)
IC402
IC303 (2/2)
HEIGHT DRV.
IC308
C307 (2/2)
Q110
Q109
Q305
Q311
Q312
DEMO
THOLD
FSEQ/PCK
TZC
RESET
XCQCK
COIN
SQOUT
RWC
WRQ
CONT SECTION (➡P55)
FSX
EFLQ
GND
CN216
ERRM Ass'y
CN901
CN902
5Vp-p
2.8μS
DFDB Ass'y
IC701 : DIGITAL FILTER
CN701
XT
DIN
LRCI
BCKI
SQ1
CN702
BCKO
WDO
DOR
DOL
SQ2
RESET
IC701 : SM5813AP
IC702 : DATA SELECTER
IC702 : HD74HC153P
MUTE
PLAY1
SQ1
SQ2
CN218
CN216
DEMP
CLK
LEC
DATA.R
DATA.L
AUDB Ass'y CN503 (➡P43)
CN212
DIGITAL OUT
JA101
GP1F32T
+5V
TBC Err
IN
OUT
-5V
MUTE
CN217
JCCB Ass'y
CN601
IC1,2 : NJM4558D
Q1,4 : 2SA933S
Q2,3 : 2SC1740
Q5 : DTC124ES
VR1 : VRT86VS223
LD SPDL Err
+14
+5 (0)
+5 (1)
-5 (1)
GND (M)
GND (CONT, DECODER)
FOCS LOCK
HEIGHT UP
HEIGHT DOWN
HEIGHT SW
A/B
SLD IN
SLD OUT
TRKG OFF
TILT ON
CD/LD
LD ON
SLD POS
FG
POWER SAVE
CONT SECTION (➡P55)

Q 101, 105, 106, 109.
309, 316 : 2SC1740S
Q 102, 107, 110, 306.
315 : 2SA933S
Q 301, 303, 305, 312.
314 : UN4112
Q 302, 402 : 2SK184
Q 304, 307, 313
318, 321 : UN4212

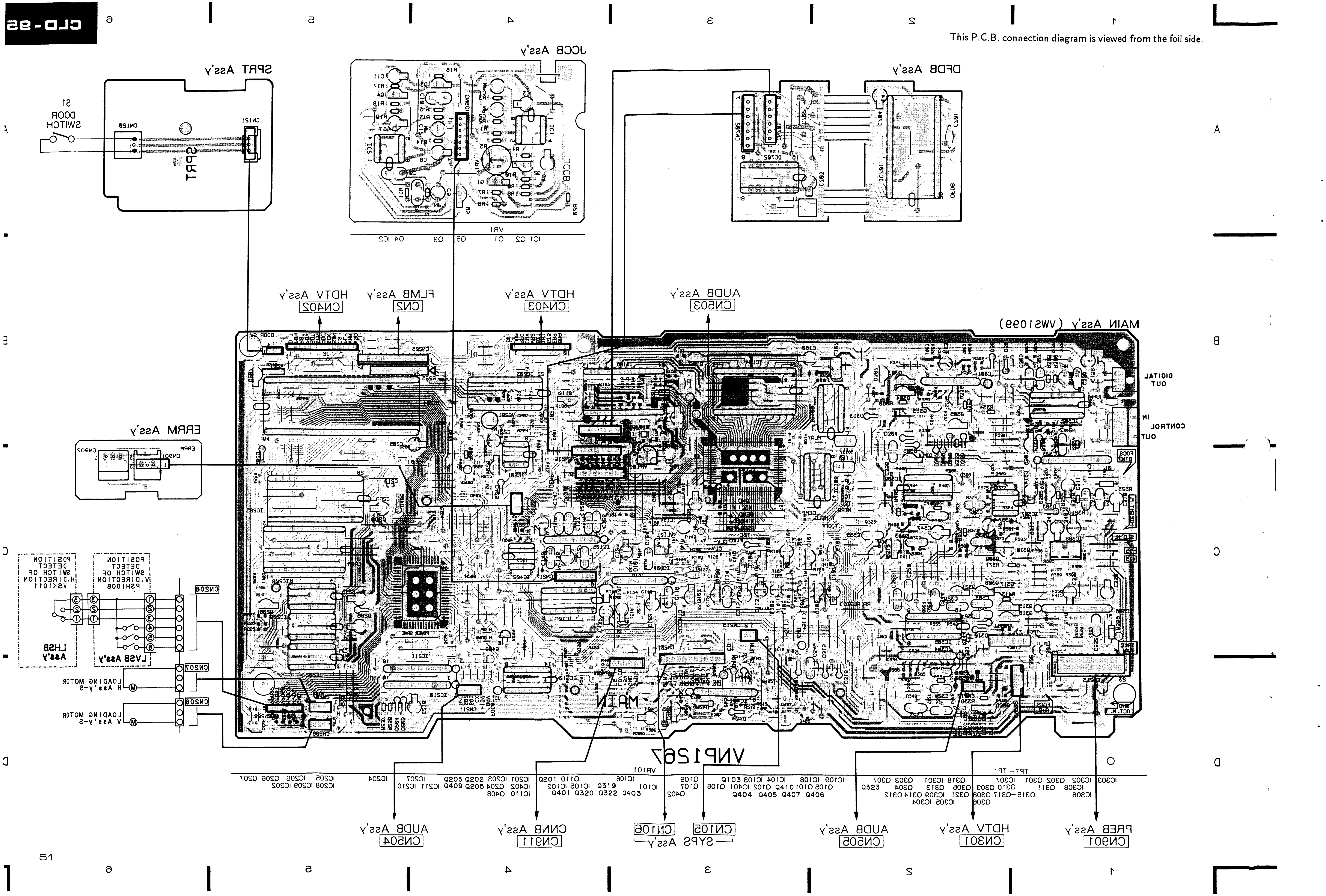
Q 320, 403, 406, 409.
410 : DTA124EK
Q 319, 322, 323, 407 : DTC124EK
Q 405 : 2SA1037K
Q 103, 404 : 2SC2412K
Q 204, 308, 310, 311,
317 : UN4215

C309 : VCH1067
L101,103 : LAU151K
L102 : LAU181J
L105 : LAU5R6J
L106,107,110,111 : LFA220J
L108,301,302 : LAU220J

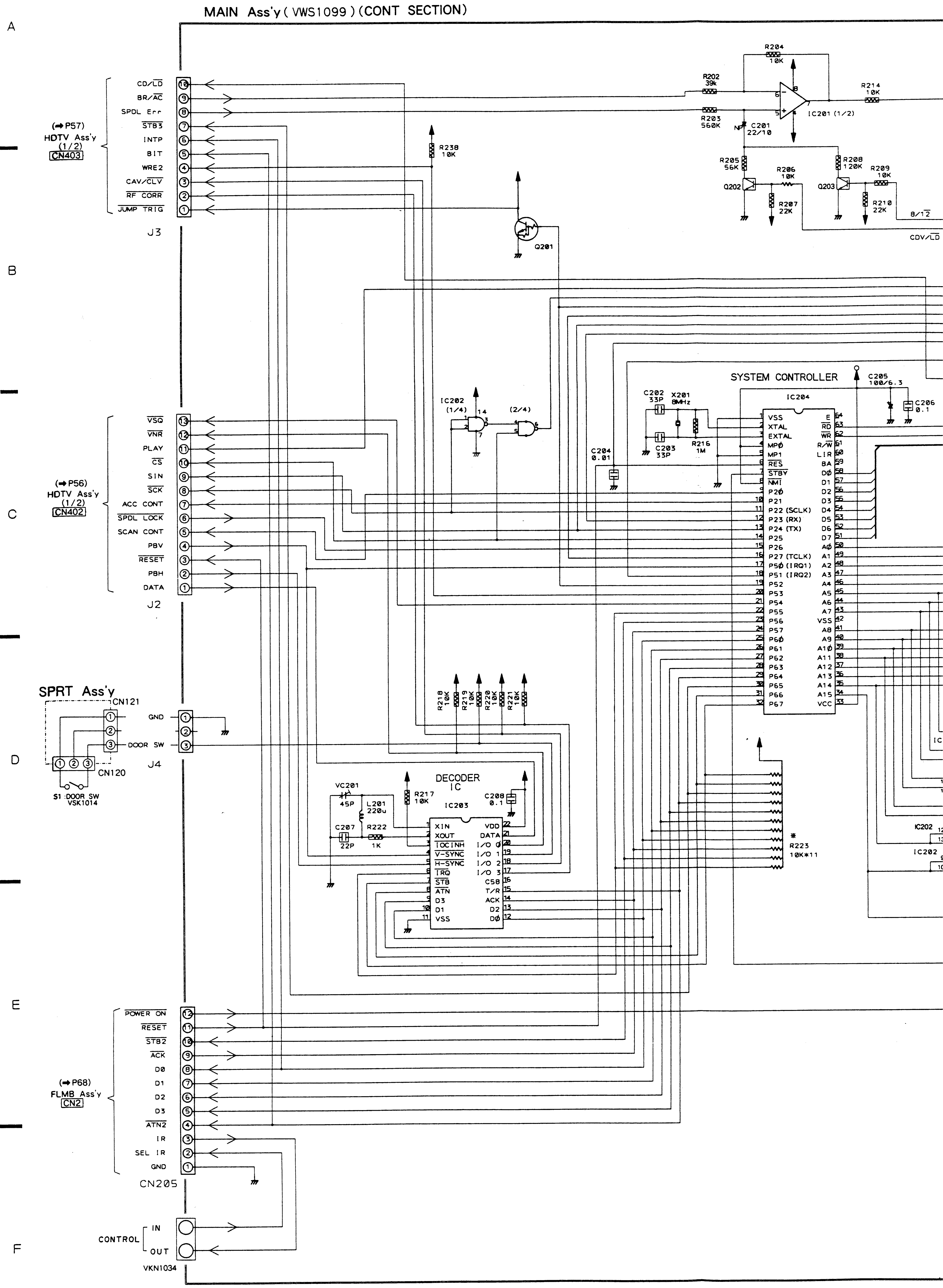
– – – – : RF Signal(EFM Signal) Line
—·—·— : DIGITAL DATA
———— : TILT ERROR Line
———— : FOCS SERVO LOOP Line
– – – – : SLDR SERVO Line
———— : TRKG SERVO LOOP Line
—··—··— : DIGITAL AUDIO Signal Line


1
2
3
4
5
6
A
B
C
D
DFDB Ass'y
JCCB Ass'y
VR1
IC1 Q2 Q1 Q5 Q3 Q4 IC2
SPRT Ass'y
CN121
CN120
S1
DOOR
SWITCH
SPRT
AUDB Ass'y
CN503
HDTV Ass'y
CN403
FLMB Ass'y
CN2
HDTV Ass'y
CN402
MAIN Ass'y (VWS1099)
DIGITAL OUT
IN
CONTROL
OUT
ERRM Ass'y
CN901
CN902
POSITION DETECT SWITCH OF V.DIRECTION PSH1008
POSITION DETECT SWITCH OF H.DIRECTION VSK1011
CN208
LVSB Ass'y
LHSB Ass'y
CN207
LOADING MOTOR H Ass'y-S
CN206
LOADING MOTOR V Ass'y-S
MAIN
VNP1267
TP7–TP1
VR101
IC303 IC302 Q302 Q301 IC307
IC308 Q311 Q310 Q309
IC306 Q315–Q317 Q308
Q306
Q318 IC301 Q303 Q307
Q305 Q313 Q304
Q321 IC309 Q314 Q312
IC305 IC304
IC109 IC108 IC104 IC103
Q105 Q101 Q102 IC401 Q106
Q109
Q107
Q402
IC106
IC101
Q110
IC105 IC102
IC201 IC203
IC402 Q204
IC110 Q408
IC207
IC211 IC210
IC204
IC205 IC206 Q206 Q207
IC208 IC209 IC202
PREB Ass'y
CN901
HDTV Ass'y
CN301
AUDB Ass'y
CN505
CN105
CN106
SYPS Ass'y
CNNB Ass'y
CN911
AUDB Ass'y
CN504

This P.C.B. connection diagram is viewed from the foil side.

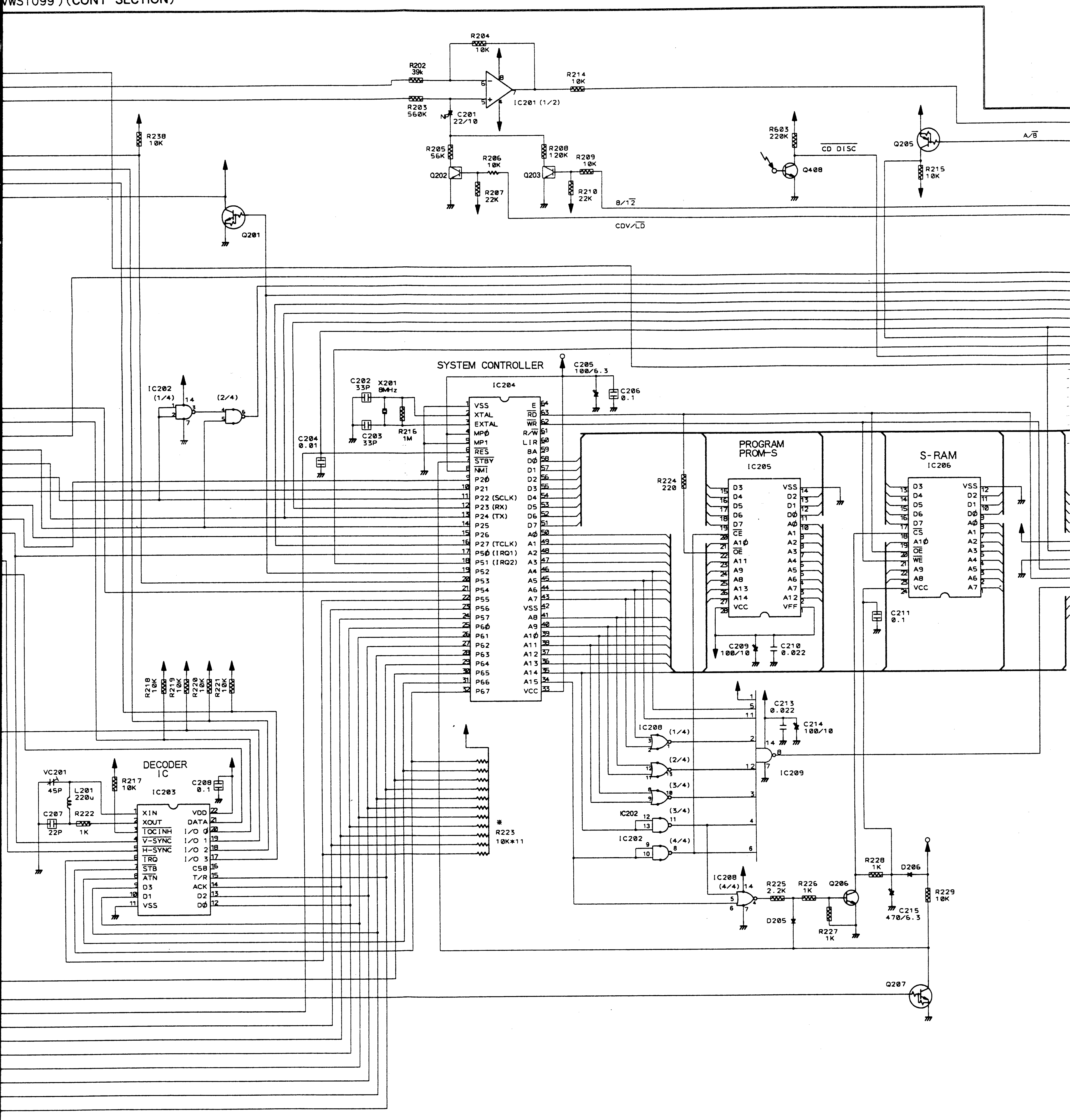

6
5
4
3
2
1
A
B
C
D
SPRT Ass'y
S1 DOOR SWITCH
CN120
CN121
SPRT
JCCB Ass'y
JCCB
VR1
IC1 Q2 Q1 Q5 Q3 Q4 IC2
DFDB Ass'y
HDTV Ass'y CN402
FLMB Ass'y CN2
HDTV Ass'y CN403
AUDB Ass'y CN503
MAIN Ass'y (VWS1099)
DIGITAL OUT
IN CONTROL OUT
ERRM Ass'y
ERRM
CN901
CN902
POSITION DETECT SWITCH OF H.DIRECTION VSK1011
POSITION DETECT SWITCH OF V.DIRECTION PSH1008
LHSB Ass'y
LVSB Ass'y
CN208
CN207
CN206
LOADING MOTOR H Ass'y-S
LOADING MOTOR V Ass'y-S
MAIN
POWER SAVE
VNP1267
VR101
IC205 IC206 Q206 Q207
IC208 IC209 IC202
IC204
IC207 Q203 Q202 IC203 IC201
IC210 IC211 Q409 Q205 Q204
IC402 IC110 Q408
Q201 Q110 Q319 IC105 IC102 Q401 Q320 Q322 Q403
IC106 IC101
Q109 Q107 Q402
Q103 IC103 IC104 IC108 IC109 Q105 Q101 Q102 Q410 IC401 IC403 Q108 Q404 Q405 Q407 Q406
Q307 Q303 IC301 IC318 IC307 Q301 Q302 IC302 IC303
Q323 Q304 Q313 Q308 Q309 Q310 Q311 IC308
IC312 IC314 IC309 Q321 Q308 Q315–Q317 IC306
IC304 IC305 Q306
TP1–TP7
AUDB Ass'y CN504
CNNB Ass'y CN911
CN106 CN105 SYPS Ass'y
AUDB Ass'y CN505
HDTV Ass'y CN301
PREB Ass'y CN901

5.6 MAIN ASSEMBLY(CONT SECTION)

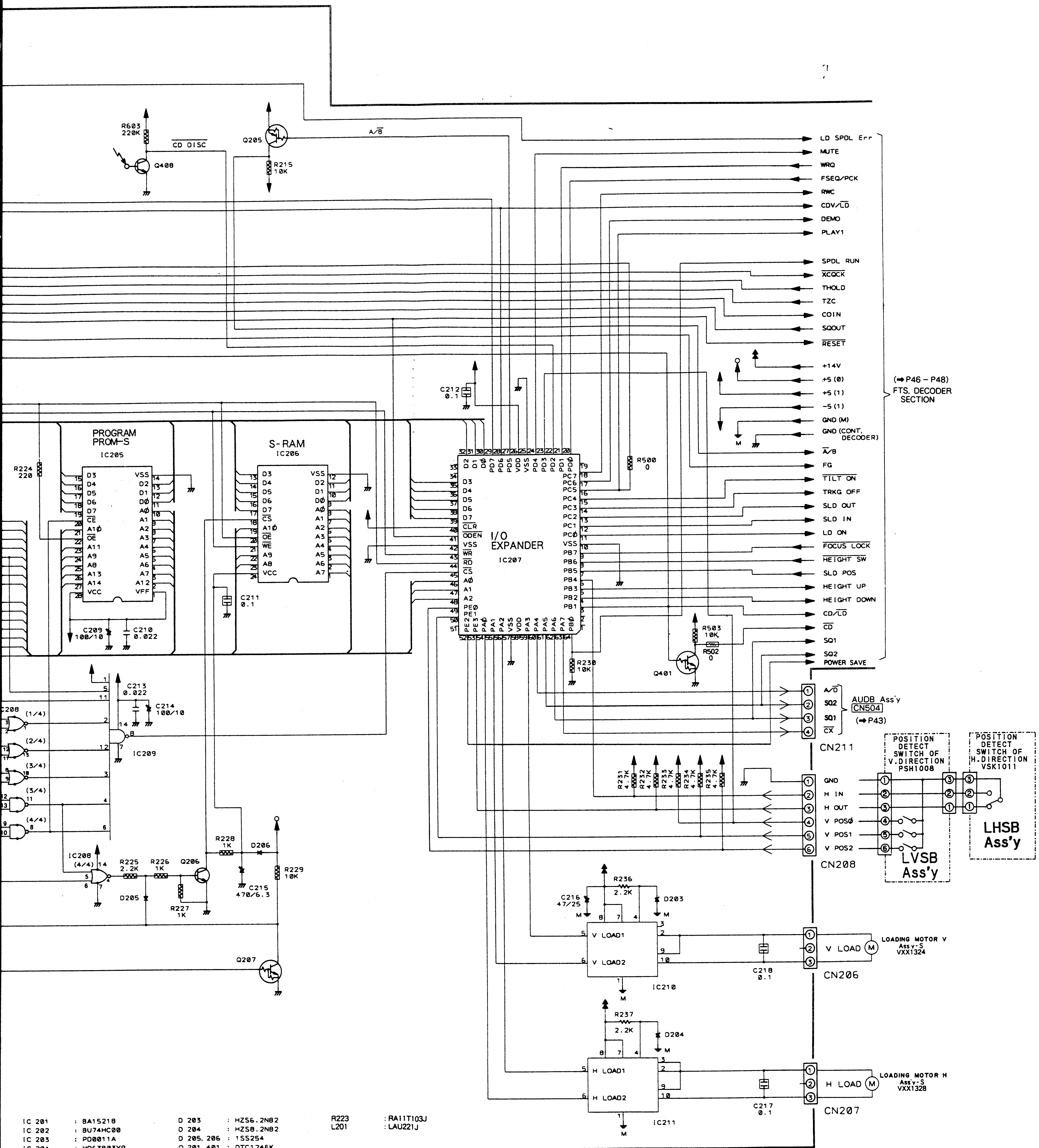

A
B
C
D
E
F
MAIN Ass'y (VWS1099) (CONT SECTION)
(➡P57)
HDTV Ass'y
(1/2)
CN403
CD/LD
BR/AC
SPDL Err
STB3
INTP
BIT
WRE2
CAV/CLV
RF CORR
JUMP TRIG
J3
R238
10K
Q201
R204
10K
R202
39k
R203
560K
C201
22/10
IC201 (1/2)
R214
10K
R205
56K
R206
10K
R207
22K
Q202
R208
120K
R209
10K
R210
22K
Q203
8/12
CDV/LD
(➡P56)
HDTV Ass'y
(1/2)
CN402
VSQ
VNR
PLAY
CS
SIN
SCK
ACC CONT
SPDL LOCK
SCAN CONT
PBV
RESET
PBH
DATA
J2
IC202
(1/4)
(2/4)
C204
0.01
SYSTEM CONTROLLER
C202
33P
X201
8MHz
C203
33P
R216
1M
C205
100/6.3
C206
0.1
IC204
VSS
XTAL
EXTAL
MPØ
MP1
RES
STBY
NMI
P2Ø
P21
P22 (SCLK)
P23 (RX)
P24 (TX)
P25
P26
P27 (TCLK)
P5Ø (IRQ1)
P51 (IRQ2)
P52
P53
P54
P55
P56
P57
P6Ø
P61
P62
P63
P64
P65
P66
P67
E
RD
WR
R/W
LIR
BA
DØ
D1
D2
D3
D4
D5
D6
D7
AØ
A1
A2
A3
A4
A5
A6
A7
VSS
A8
A9
A1Ø
A11
A12
A13
A14
A15
VCC
SPRT Ass'y
CN121
GND
DOOR SW
J4
CN120
S1 :DOOR SW
VSK1014
R218
10K
R219
10K
R220
10K
R221
10K
DECODER
IC
IC203
VC201
45P
L201
220u
R217
10K
C208
0.1
C207
22P
R222
1K
XIN
XOUT
TOCINH
V-SYNC
H-SYNC
IRQ
STB
ATN
D3
D1
VSS
VDD
DATA
I/O 0
I/O 1
I/O 2
I/O 3
CSB
T/R
ACK
D2
DØ
R223
10K*11
IC202
IC202
(➡P68)
FLMB Ass'y
CN2
POWER ON
RESET
STB2
ACK
D0
D1
D2
D3
ATN2
IR
SEL IR
GND
CN205
CONTROL
IN
OUT
VKN1034

Pro 3097

WS1099) (CONT SECTION)


SYSTEM CONTROLLER
IC204
PROGRAM PROM-S
IC205
S-RAM
IC206
DECODER IC
IC203
IC201 (1/2)
IC202 (1/4)
(2/4)
IC208 (1/4)
(2/4)
(3/4)
(4/4)
IC209
IC202 (3/4)
IC202 (4/4)
R204 10K
R202 39k
R203 560K
C201 22/10
R214 10K
R205 56K
R206 10K
R207 22K
R208 120K
R209 10K
R210 22K
R238 10K
R603 220K
R215 10K
R224 220
R216 1M
R217 10K
R218 10K
R219 10K
R220 10K
R221 10K
R222 1K
R223 10K*11
R225 2.2K
R226 1K
R227 1K
R228 1K
R229 10K
C202 33P
C203 33P
C204 0.01
C205 100/6.3
C206 0.1
C207 22P
C208 0.1
C209 100/10
C210 0.022
C211 0.1
C213 0.022
C214 100/10
C215 470/6.3
X201 8MHz
VC201 45P
L201 220u
Q201
Q202
Q203
Q205
Q206
Q207
Q408
D205
D206
8/12
CDV/LD
CD DISC
A/B
VSS
XTAL
EXTAL
MP0
MP1
RES
STBY
NMI
P20
P21
P22 (SCLK)
P23 (RX)
P24 (TX)
P25
P26
P27 (TCLK)
P50 (IRQ1)
P51 (IRQ2)
P52
P53
P54
P55
P56
P57
P60
P61
P62
P63
P64
P65
P66
P67
E
RD
WR
R/W
LIR
BA
D0
D1
D2
D3
D4
D5
D6
D7
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
VCC
CE
OE
VFF
CS
WE
XIN
XOUT
IOCINH
V-SYNC
H-SYNC
IRQ
STB
ATN
VDD
DATA
I/O 0
I/O 1
I/O 2
I/O 3
CSB
T/R
ACK

IC 201	: BA15218	D 203	: HZS6.2NB2	R223	: RA11T1
IC 202	: BU74HC00	D 204	: HZS8.2NB2	L201	: LAU221
IC 203	: PD0011A	D 205. 206	: 1SS254		
IC 204	: HD63B03YP	Q 201. 401	: DTC124EK		
IC 205	: PDK012A	Q 202. 203	: 2SC2412K		
IC 206	: LC3517BL-15	Q 205	: DTA124EK		
IC 207	: CXD1095Q	Q 206	: 2SC2786		
IC 208	: BU74HC02	Q 207	: UN4212-T		
IC 209	: TC74HC30AP	Q 408	: RPT-34PB3F		
IC 210 . 211	: TA7291P	VC 201	: VCM-003		
		X 201	: KBR-8.0M		

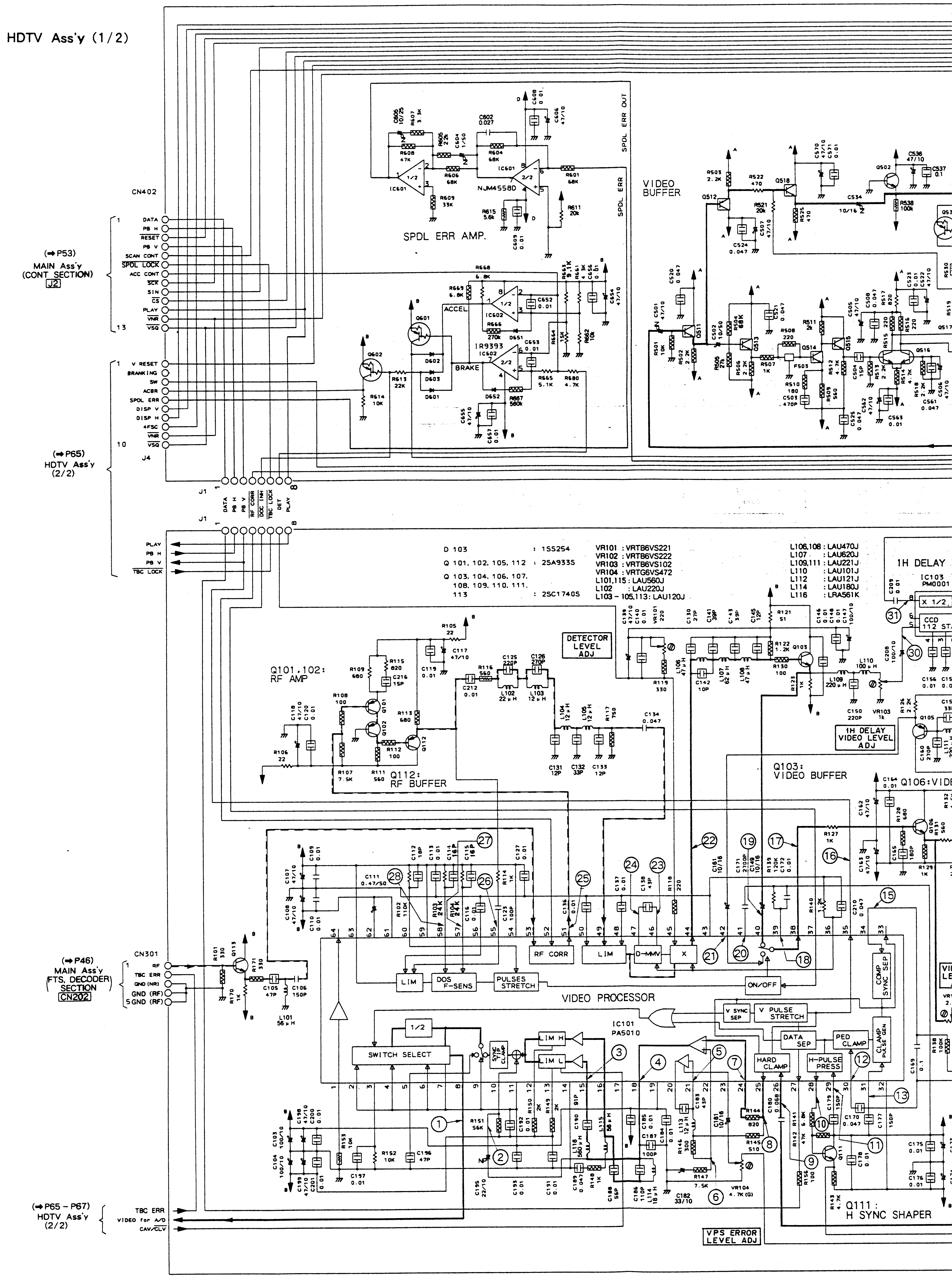

R603
220K
Q408
CD DISC
Q205
R215
10K
A/B
LD SPDL Err
MUTE
WRQ
FSEQ/PCK
RWC
CDV/LD
DEMO
PLAY1
SPDL RUN
XCQCK
THOLD
TZC
COIN
SQOUT
RESET
+14V
+5 (0)
+5 (1)
-5 (1)
GND (M)
GND (CONT. DECODER)
(➡P46 – P48)
FTS. DECODER SECTION
A/B
FG
TILT ON
TRKG OFF
SLD OUT
SLD IN
LD ON
FOCUS LOCK
HEIGHT SW
SLD POS
HEIGHT UP
HEIGHT DOWN
CD/LD
CD
SQ1
SQ2
POWER SAVE
C212
0.1
PROGRAM PROM-S
IC205
R224
220
S-RAM
IC206
I/O EXPANDER
IC207
R500
0
R503
10K
R502
0
Q401
R230
10K
C209
100/10
C210
0.022
C211
0.1
C213
0.022
C214
100/10
IC209
IC208 (1/4)
(2/4)
(3/4)
(4/4)
IC208 (4/4)
R225
2.2K
R226
1K
Q206
R227
1K
D205
R228
1K
D206
R229
10K
C215
470/6.3
Q207
A/D
SQ2
SQ1
CX
AUDB Ass'y
CN504
(➡P43)
CN211
R231 4.7K
R232 4.7K
R233 4.7K
R234 4.7K
R235 4.7K
GND
H IN
H OUT
V POS0
V POS1
V POS2
CN208
POSITION DETECT SWITCH OF V.DIRECTION PSH1008
LVSB Ass'y
POSITION DETECT SWITCH OF H.DIRECTION VSK1011
LHSB Ass'y
R236
2.2K
C216
47/25
D203
V LOAD1
V LOAD2
IC210
C218
0.1
V LOAD
LOADING MOTOR V Ass'y-S VXX1324
CN206
R237
2.2K
D204
H LOAD1
H LOAD2
IC211
C217
0.1
H LOAD
LOADING MOTOR H Ass'y-S VXX1328
CN207

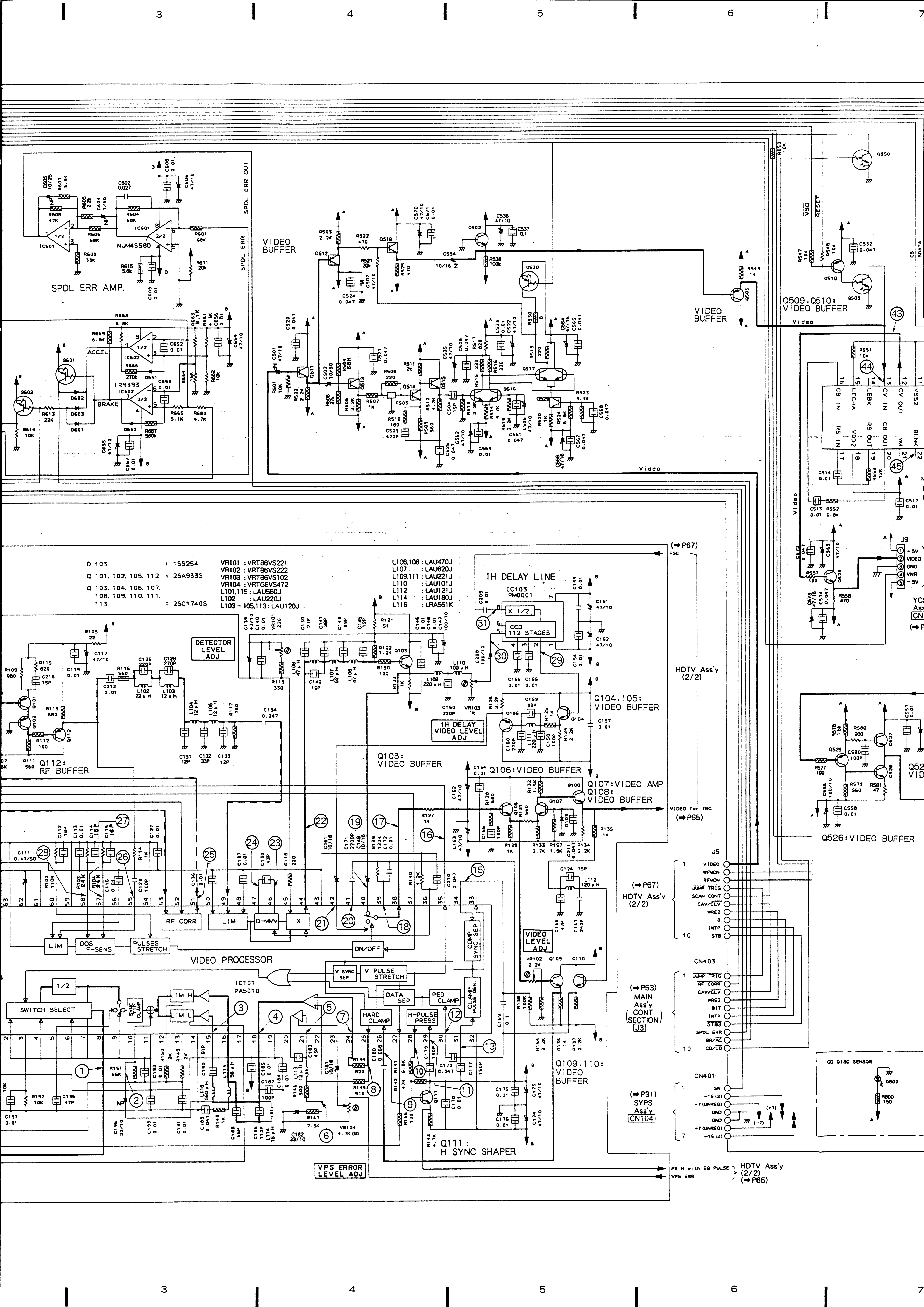
IC 201 : BA15218
IC 202 : BU74HC00
IC 203 : PD0011A
IC 204 : HD63B03YP
IC 205 : PDK012A
IC 206 : LC3517BL-15
IC 207 : CXD1095Q
IC 208 : BU74HC02
IC 209 : TC74HC30AP
IC 210 . 211 : TA7291P

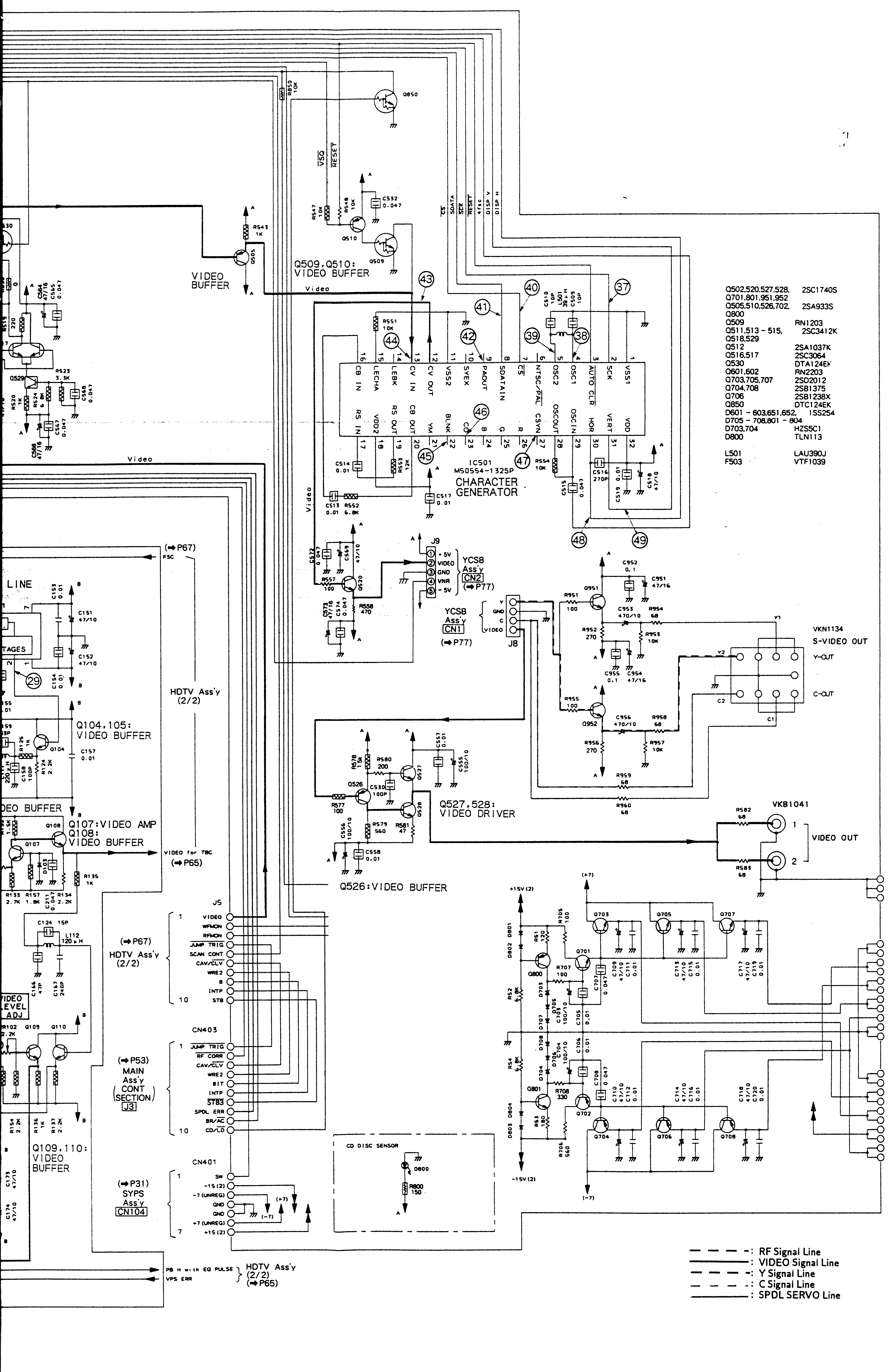
D 203 : HZS6.2NB2
D 204 : HZS8.2NB2
D 205, 206 : 1SS254
Q 201, 401 : DTC124EK
Q 202, 203 : 2SC2412K
Q 205 : DTA124EK
Q 206 : 2SC2786
Q 207 : UN4212-T
Q 408 : RPT-34PB3F
VC 201 : VCM-003
X 201 : KBR-8.0M

R223 : RA11T103J
L201 : LAU221J

5.7 HDTV ASSEMBLY(1/2)


HDTV Ass'y (1/2)
SPDL ERR AMP.
SPDL ERR OUT
SPDL ERR
VIDEO BUFFER
IC601 NJM4558D
IC602 IR9393
ACCEL
BRAKE
CN402
(➡P53) MAIN Ass'y (CONT SECTION) J2
DATA
PB H
RESET
PB V
SCAN CONT
SPDL LOCK
ACC CONT
SCR
SIN
CS
PLAY
VNR
VSQ
V RESET
BRANKING
SW
ACBR
SPDL ERR
DISP V
DISP H
4FSC
(➡P65) HDTV Ass'y (2/2)
J4
J1
RF CORR
DOC INH
TBC LOCK
DET
D 103 : 1SS254
Q 101, 102, 105, 112 : 2SA933S
Q 103, 104, 106, 107, 108, 109, 110, 111, 113 : 2SC1740S
VR101 : VRTB6VS221
VR102 : VRTB6VS222
VR103 : VRTB6VS102
VR104 : VRTG6VS472
L101,115 : LAU560J
L102 : LAU220J
L103 - 105,113 : LAU120J
L106,108 : LAU470J
L107 : LAU620J
L109,111 : LAU221J
L110 : LAU101J
L112 : LAU121J
L114 : LAU180J
L116 : LRA561K
1H DELAY
IC103 PM0001
CCD
DETECTOR LEVEL ADJ
1H DELAY VIDEO LEVEL ADJ
Q101,102: RF AMP
Q112: RF BUFFER
Q103: VIDEO BUFFER
Q106: VIDEO
(➡P46) MAIN Ass'y (FTS. DECODER SECTION) CN202
CN301
RF
TBC ERR
GND (NR)
GND (RF)
LIM
DOS F-SENS
PULSES STRETCH
D-MMV
ON/OFF
VIDEO PROCESSOR
COMP SYNC SEP
V SYNC SEP
V PULSE STRETCH
IC101 PA5010
DATA SEP
PED CLAMP
CLAMP PULSE GEN
HARD CLAMP
H-PULSE PRESS
SWITCH SELECT
1/2
SYNC TIP CLAMP
LIM H
LIM L
VPS ERROR LEVEL ADJ
Q111: H SYNC SHAPER
(➡P65 - P67) HDTV Ass'y (2/2)
VIDEO for A/D
CAV/CLV


3
4
5
6
7
SPDL ERR AMP.
NJM4558D
IC601
IC602
IR9393
ACCEL
BRAKE
Q601
Q602
SPDL ERR OUT
SPDL ERR
VIDEO BUFFER
Q509,Q510:
VIDEO BUFFER
Video
D 103 : 1SS254
Q 101, 102, 105, 112 : 2SA933S
Q 103, 104, 106, 107, 108, 109, 110, 111, 113 : 2SC1740S
VR101 : VRTB6VS221
VR102 : VRTB6VS222
VR103 : VRTB6VS102
VR104 : VRTG6VS472
L101,115 : LAU560J
L102 : LAU220J
L103 - 105,113 : LAU120J
L106,108 : LAU470J
L107 : LAU620J
L109,111 : LAU221J
L110 : LAU101J
L112 : LAU121J
L114 : LAU180J
L116 : LRA561K
1H DELAY LINE
IC103
PM0001
X 1/2
CCD
112 STAGES
DETECTOR LEVEL ADJ
1H DELAY VIDEO LEVEL ADJ
Q112:
RF BUFFER
Q103:
VIDEO BUFFER
Q104,105:
VIDEO BUFFER
Q106:VIDEO BUFFER
Q107:VIDEO AMP
Q108:
VIDEO BUFFER
(➡P67)
FSC
VIDEO for TBC
(➡P65)
HDTV Ass'y (2/2)
RF CORR
LIM
D-MMV
X
DOS F-SENS
PULSES STRETCH
ON/OFF
COMP SYNC SEP
VIDEO PROCESSOR
V SYNC SEP
V PULSE STRETCH
IC101
PA5010
SWITCH SELECT
1/2
SYNC TIP CLAMP
LIM H
LIM L
DATA SEP
PED CLAMP
CLAMP PULSE GEN
HARD CLAMP
H-PULSE PRESS
VIDEO LEVEL ADJ
Q109,110:
VIDEO BUFFER
Q111:
H SYNC SHAPER
VPS ERROR LEVEL ADJ
PB H with EQ PULSE
VPS ERR
HDTV Ass'y (2/2)
(➡P65)
J5
VIDEO
WFMON
RFMON
JUMP TRIG
SCAN CONT
CAV/CLV
WRE2
8
INTP
STB
(➡P67)
HDTV Ass'y (2/2)
CN403
JUMP TRIG
RF CORR
CAV/CLV
WRE2
BIT
INTP
STB3
SPDL ERR
BR/AC
CD/LD
(➡P53)
MAIN Ass'y (CONT SECTION) J3
CN401
SW
-15 (2)
-7 (UNREG)
GND
GND
+7 (UNREG)
+15 (2)
(➡P31)
SYPS Ass'y
CN104
CD DISC SENSOR
D800
R800 150
J9
+5V
VIDEO
GND
VNR
-5V
CB IN
LECHA
LEBK
CV IN
CV OUT
VSS2
RS IN
VDD2
RS OUT
CB OUT
YM
BLNK
Q526:VIDEO BUFFER
Q850
VSQ
RESET
SDATA



5
6
7
8
9
A
B
C
D
E
F
Q850
R850 10K
VSQ
RESET
R547 10K
R548 10K
C532 0.047
Q510
Q509
Q509,Q510:
VIDEO BUFFER
R543 1K
Q505
VIDEO BUFFER
Video
CS
SDATA
SCK
RESET
4fsc
DISP V
DISP H
R551 10K
C510 10P
L501 39µH
C509 10P
IC501
M50554-132SP
CHARACTER GENERATOR
CB IN
LECHA
LEBK
CV IN
CV OUT
VSS2
SYEX
PAOUT
SDATAIN
CS
NTSC/PAL
OSC2
OSC1
AUTO CLR
SCK
VSS1
RS IN
VDD2
RS OUT
CB OUT
YM
BLNK
CO
B
G
R
CSYN
OSCOUT
OSCIN
HOR
VERT
VDD
C514 0.01
R553 12K
C517 0.01
C513 0.01
R552 6.8K
R554 10K
C515 0.047
C516 270P
C519 0.01
C518 47/10
(37)
(38)
(39)
(40)
(41)
(42)
(43)
(44)
(45)
(46)
(47)
(48)
(49)
J9
+5V
VIDEO
GND
VNR
-5V
YCSB Ass'y CN2 (➡P77)
C572 0.047
C569 47/10
R557 100
Q520
R558 470
C573 47/10
C574 0.047
YCSB Ass'y CN1 (➡P77)
Y
GND
C
VIDEO
J8
Q951
R951 100
C952 0.1
C951 47/16
C953 470/10
R954 68
R952 270
R953 10K
C955 0.1
C954 47/16
R955 100
Q952
C956 470/10
R958 68
R956 270
R957 10K
R959 68
R960 68
VKN1134
S-VIDEO OUT
Y1
Y2
C1
C2
Y-OUT
C-OUT
R578 1K
R580 200
Q527
C557 0.01
C555 100/10
Q526
C530 100P
R577 100
Q528
Q527,528:
VIDEO DRIVER
C556 100/10
R579 560
R581 47
C558 0.01
Q526:VIDEO BUFFER
VKB1041
R582 68
R583 68
VIDEO OUT
J6
GND
J3
+5 (A)
-5 (A)
+5 (D)
-5 (D)
J2
-5 (B)
+5 (B)
+14
-5 (BO)
(➡P65)
HDTV Ass'y (2/2)
+15V (2)
-15V (2)
(+7)
(-7)
Q703
Q705
Q707
Q701
Q800
Q801
Q702
Q704
Q706
Q708
R705 100
R61 120
D801
D802
R707 100
R52 6.8K
D703
D705
C703 100/10
C705 0.01
C707 0.047
C709 47/10
C711 0.01
C713 47/10
C715 0.01
C717 47/10
C719 0.01
D707
D708
D706
C704 100/10
C706 0.01
D704
R54 6.8K
C708 0.047
R708 330
C710 47/10
C712 0.01
C714 47/10
C716 0.01
C718 47/10
C720 0.01
R53 180
D803
D804
R706 560
CD DISC SENSOR
D800
R800 150
(➡P67)
FSC
HDTV Ass'y (2/2)
LINE
C153 0.01
C151 47/10
C152 47/10
C154 0.01
TAGES
(29)
Q104,105:
VIDEO BUFFER
R125 1K
Q104
C157 0.01
C158 100P
R124 2.2K
EO BUFFER
Q107:VIDEO AMP
Q108:
VIDEO BUFFER
Q108
Q107
R135 1K
R133 2.7K
R157 1.8K
C211 0.047
R134 2.2K
VIDEO for TBC
(➡P65)
C124 15P
L112 120µH
C166 47P
C167 240P
VIDEO LEVEL ADJ
R102 2.2K
Q109
Q110
R154 2.2K
R136 1K
R137 2.2K
Q109,110:
VIDEO BUFFER
C173 47/10
C174 47/10
J5
VIDEO
WFMON
RFMON
JUMP TRIG
SCAN CONT
CAV/CLV
WRE2
8
INTP
STB
(➡P67)
HDTV Ass'y (2/2)
CN403
JUMP TRIG
RF CORR
CAV/CLV
WRE2
8IT
INTP
STB3
SPDL ERR
BR/AC
CD/LD
(➡P53)
MAIN Ass'y CONT SECTION J3
CN401
SW
-15 (2)
-7 (UNREG)
GND
+7 (UNREG)
+15 (2)
(➡P31)
SYPS Ass'y CN104
PB H with EQ PULSE
VPS ERR
HDTV Ass'y (2/2) (➡P65)

Q502,520,527,528, Q701,801,951,952	2SC1740S
Q505,510,526,702, Q800	2SA933S
Q509	RN1203
Q511,513 – 515, Q518,529	2SC3412K
Q512	2SA1037K
Q516,517	2SC3064
Q530	DTA124EK
Q601,602	RN2203
Q703,705,707	2SD2012
Q704,708	2SB1375
Q706	2SB1238X
Q850	DTC124EK
D601 – 603,651,652, D705 – 708,801 – 804	1SS254
D703,704	HZS5C1
D800	TLN113
L501	LAU390J
F503	VTF1039

— — — — : RF Signal Line
———— : VIDEO Signal Line
— — — — : Y Signal Line
— — — — : C Signal Line
———— : SPDL SERVO Line

Note: All waveforms and voltage tables are measured in the play mode.

IC101
< PA5010 >

Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage	Pin No.	Voltage
1	− 1.2	17	0	33	*	49	− 1.7
2	5	18	*	34	*	50	− 1.7
3	− 1	19	5	35	*	51	*
4	5	20	1	36	1	52	0
5	1	21	*	37	5	53	− 2
6	5	22	*	38	*	54	5
7	5	23	− 2.5	39	*	55	*
8	*	24	*	40	*	56	− 2
9	5	25	*	41	*	57	*
10	*	26	*	42	*	58	*
11	5	27	0.5	43	0	59	5
12	− 5	28	*	44	*	60	3.8
13	− 5	29	*	45	5	61	− 5
14	0	30	*	46	*	62	− 3.2
15	*	31	*	47	*	63	5
16	− 2	32	− 5	48	− 1.7	64	

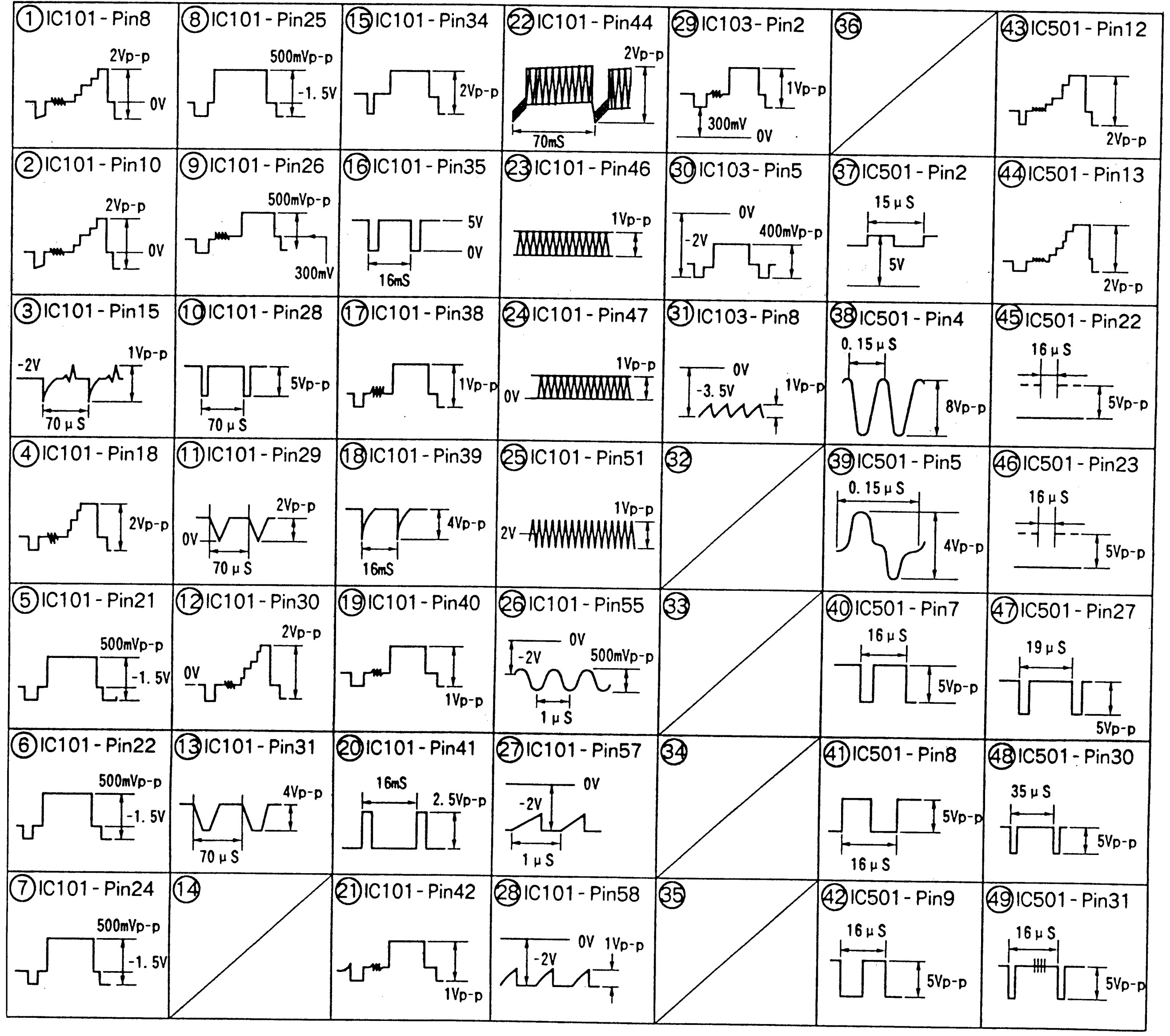
IC103
< PM0001 >

Pin No.	Voltage
1	− 5
2	*
3	− 2
4	− 2
5	*
6	0
7	5
8	*

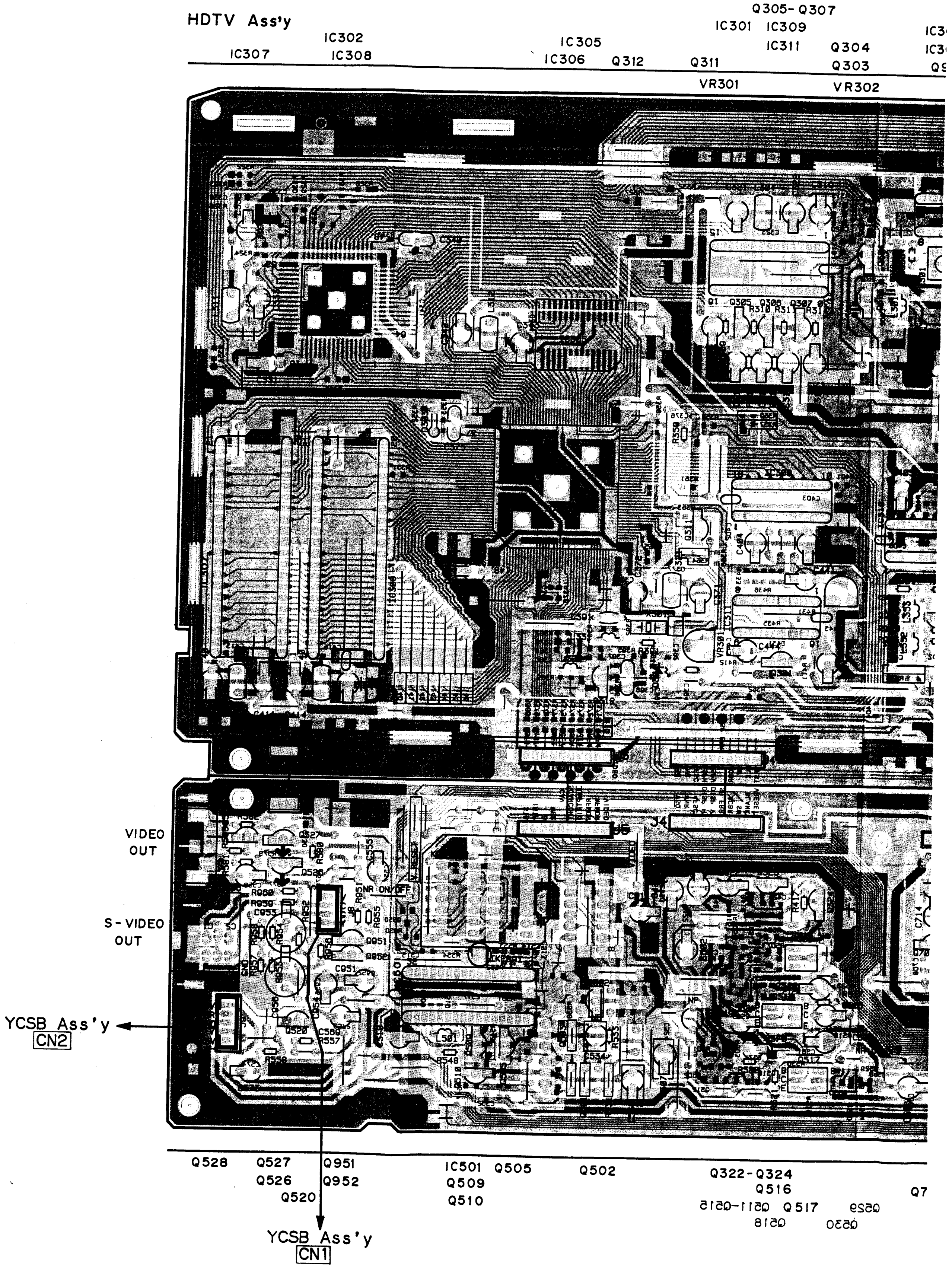
IC501
< M50554-132SP >

Pin No.	Voltage	Pin No.	Voltage
1	0	17	0.8
2	*	18	5
3	5	19	0
4	*	20	0
5	*	21	0
6	5	22	*
7	*	23	*
8	*	24	0
9	*	25	0
10	5	26	0
11	0	27	*
12	*	28	2
13	*	29	2
14	0.6	30	*
15	3.5	31	*
16	0.6	32	5

HDTV Ass'y



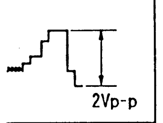
① IC101 - Pin8 2Vp-p 0V
② IC101 - Pin10 2Vp-p 0V
③ IC101 - Pin15 -2V 1Vp-p 70μS
④ IC101 - Pin18 2Vp-p
⑤ IC101 - Pin21 500mVp-p -1.5V
⑥ IC101 - Pin22 500mVp-p -1.5V
⑦ IC101 - Pin24 500mVp-p -1.5V
⑧ IC101 - Pin25 500mVp-p -1.5V
⑨ IC101 - Pin26 500mVp-p 300mV
⑩ IC101 - Pin28 5Vp-p 70μS
⑪ IC101 - Pin29 2Vp-p 0V 70μS
⑫ IC101 - Pin30 2Vp-p 0V
⑬ IC101 - Pin31 4Vp-p 70μS
⑭
⑮ IC101 - Pin34 2Vp-p
⑯ IC101 - Pin35 5V 0V 16mS
⑰ IC101 - Pin38 1Vp-p
⑱ IC101 - Pin39 4Vp-p 16mS
⑲ IC101 - Pin40 1Vp-p
⑳ IC101 - Pin41 16mS 2.5Vp-p
㉑ IC101 - Pin42 1Vp-p
㉒ IC101 - Pin44 2Vp-p 70mS
㉓ IC101 - Pin46 1Vp-p
㉔ IC101 - Pin47 1Vp-p 0V
㉕ IC101 - Pin51 1Vp-p 2V
㉖ IC101 - Pin55 0V -2V 500mVp-p 1μS
㉗ IC101 - Pin57 0V -2V 1μS
㉘ IC101 - Pin58 0V 1Vp-p -2V
㉙ IC103 - Pin2 1Vp-p 300mV 0V
㉚ IC103 - Pin5 0V -2V 400mVp-p
㉛ IC103 - Pin8 0V -3.5V 1Vp-p
㉜
㉝
㉞
㉟
㊱
㊲ IC501 - Pin2 15μS 5V
㊳ IC501 - Pin4 0.15μS 8Vp-p
㊴ IC501 - Pin5 0.15μS 4Vp-p
㊵ IC501 - Pin7 16μS 5Vp-p
㊶ IC501 - Pin8 5Vp-p 16μS
㊷ IC501 - Pin9 16μS 5Vp-p
㊸ IC501 - Pin12 2Vp-p
㊹ IC501 - Pin13 2Vp-p
㊺ IC501 - Pin22 16μS 5Vp-p
㊻ IC501 - Pin23 16μS 5Vp-p
㊼ IC501 - Pin27 19μS 5Vp-p
㊽ IC501 - Pin30 35μS 5Vp-p
㊾ IC501 - Pin31 16μS 5Vp-p



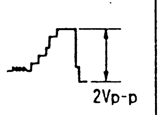
HDTV Ass'y
IC307
IC302
IC308
IC305
IC306
Q312
Q311
IC301
IC309
Q305-Q307
IC311
Q304
Q303
VR301
VR302
VIDEO OUT
S-VIDEO OUT
YCSB Ass'y
CN2
Q528
Q527
Q526
Q520
Q951
Q952
IC501
Q505
Q509
Q510
Q502
Q322-Q324
Q516
Q511-Q515
Q517
Q518
Q529
Q530
Q7
YCSB Ass'y
CN1

Voltage
0.8
5
0
0
0
*
*
0
0
0
*
2
2
*
*
5

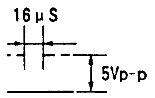
IC501 - Pin12



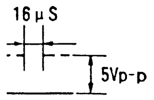
IC501 - Pin13



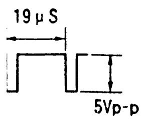
IC501 - Pin22



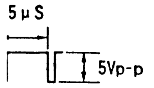
IC501 - Pin23



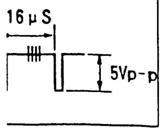
IC501 - Pin27

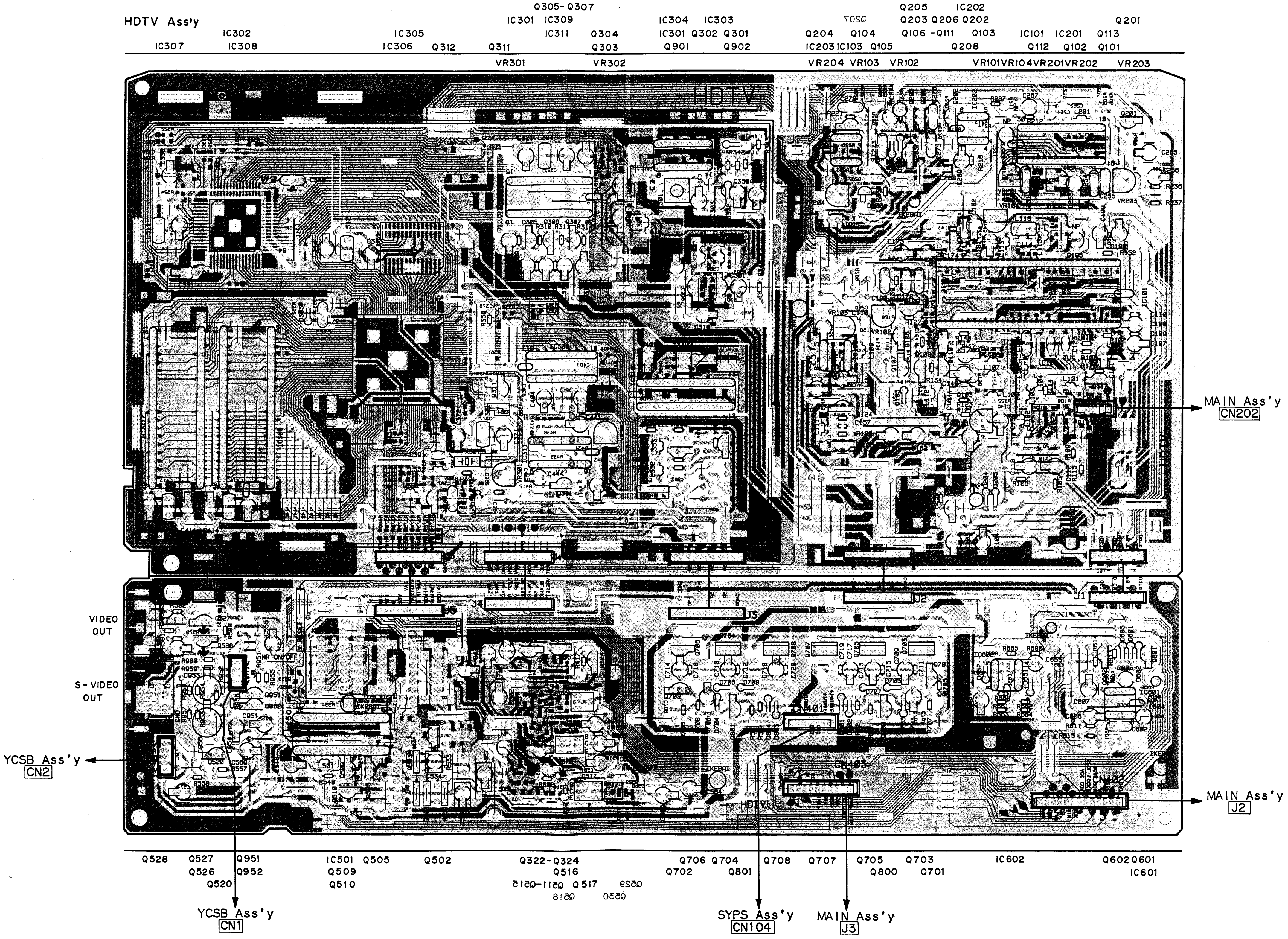


IC501 - Pin30



IC501 - Pin31




HDTV Ass'y
IC307
IC302
IC308
IC305
IC306
Q312
Q311
Q305-Q307
IC301 IC309
IC311
Q304
Q303
VR301
VR302
IC304 IC303
IC301 Q302 Q301
Q901
Q902
Q204 Q104
IC203 IC103 Q105
VR204 VR103 VR102
Q205 IC202
Q203 Q206 Q202
Q106 - Q111 Q103
Q208
IC101 IC201
Q112 Q102
Q201
Q113
Q101
VR101 VR104 VR201 VR202 VR203
HDTV
MAIN Ass'y
CN202
VIDEO
OUT
S-VIDEO
OUT
YCSB Ass'y
CN2
MAIN Ass'y
J2
Q528
Q527
Q526
Q520
Q951
Q952
IC501
Q509
Q510
Q505
Q502
Q322-Q324
Q516
Q517
Q706 Q704
Q702 Q801
Q708
Q707
Q705
Q800
Q703
Q701
IC602
Q602 Q601
IC601
YCSB Ass'y
CN1
SYPS Ass'y
CN104
MAIN Ass'y
J3

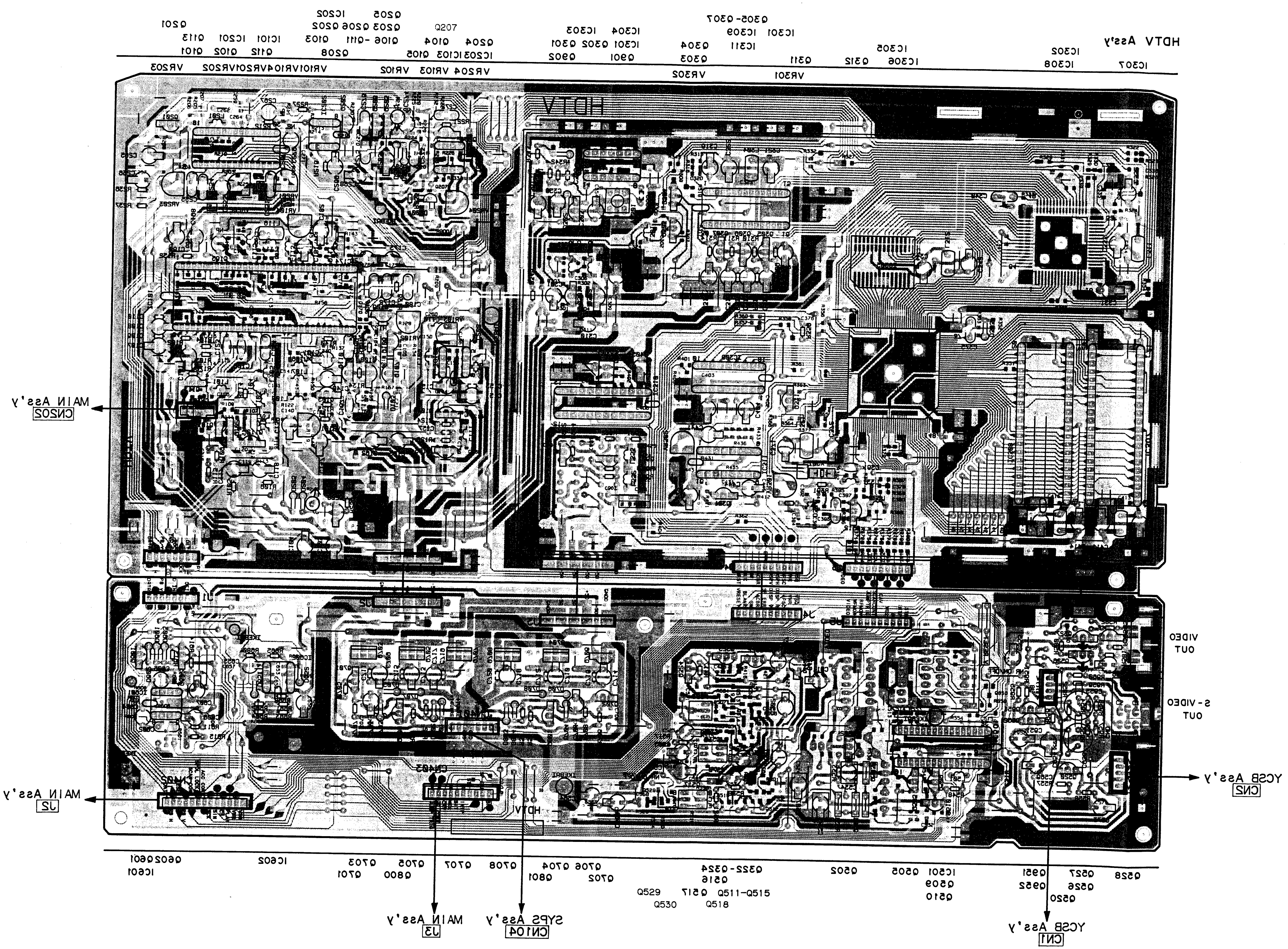
A

B

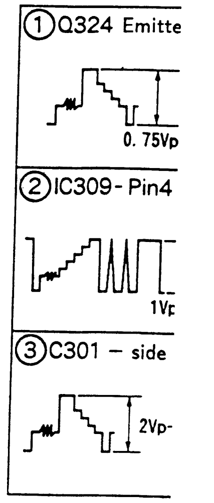
C

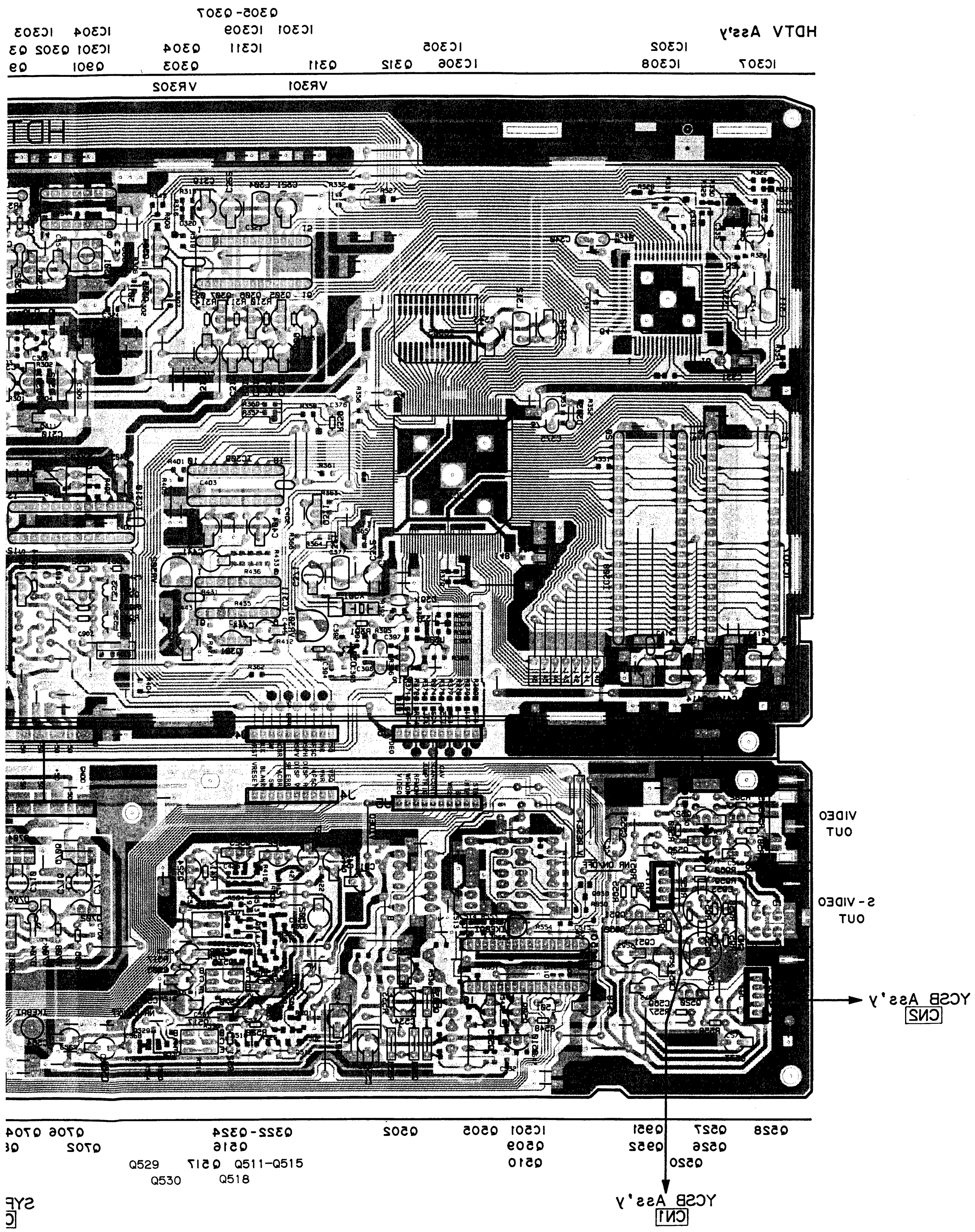
D

This P.C.B. connection diagram is viewed from the foil side.

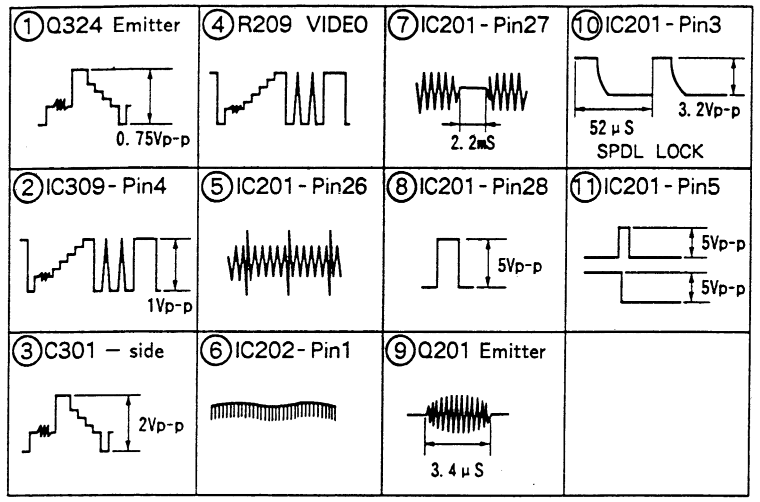

HDTV Ass'y
Q201
Q113 IC201 IC101
Q101 Q102 Q112
IC202 Q205
Q202 Q206 Q203
Q103 Q106-Q111 Q109
Q208
Q207
Q204 Q104
IC203 IC103 Q105
VR203 VR205 VR201 VR202 VR104 VR101
VR204 VR103 VR102
IC303 IC304
IC301 Q302 Q301 IC301
Q902 Q901
Q305-Q307
IC301 IC309
Q304 IC311
Q303
VR302 VR301
Q311 Q312
IC305 IC306
IC302 IC308
IC307
HDTV
MAIN Ass'y
CN202
MAIN Ass'y
J2
VIDEO OUT
S-VIDEO OUT
YCSB Ass'y
CN2
HDTV
IC601 Q602 Q601
IC602
Q703 Q705 Q707 Q708 Q704 Q706
Q701 Q800 Q801 Q702
Q322-Q324
Q516
Q529 Q517 Q511-Q515
Q530 Q518
Q502
Q505 Q503 IC501
Q509
Q510
Q951 Q527 Q528
Q952 Q526
Q520
MAIN Ass'y
J3
SYPS Ass'y
CN104
YCSB Ass'y
CN1

HDTV Ass'y

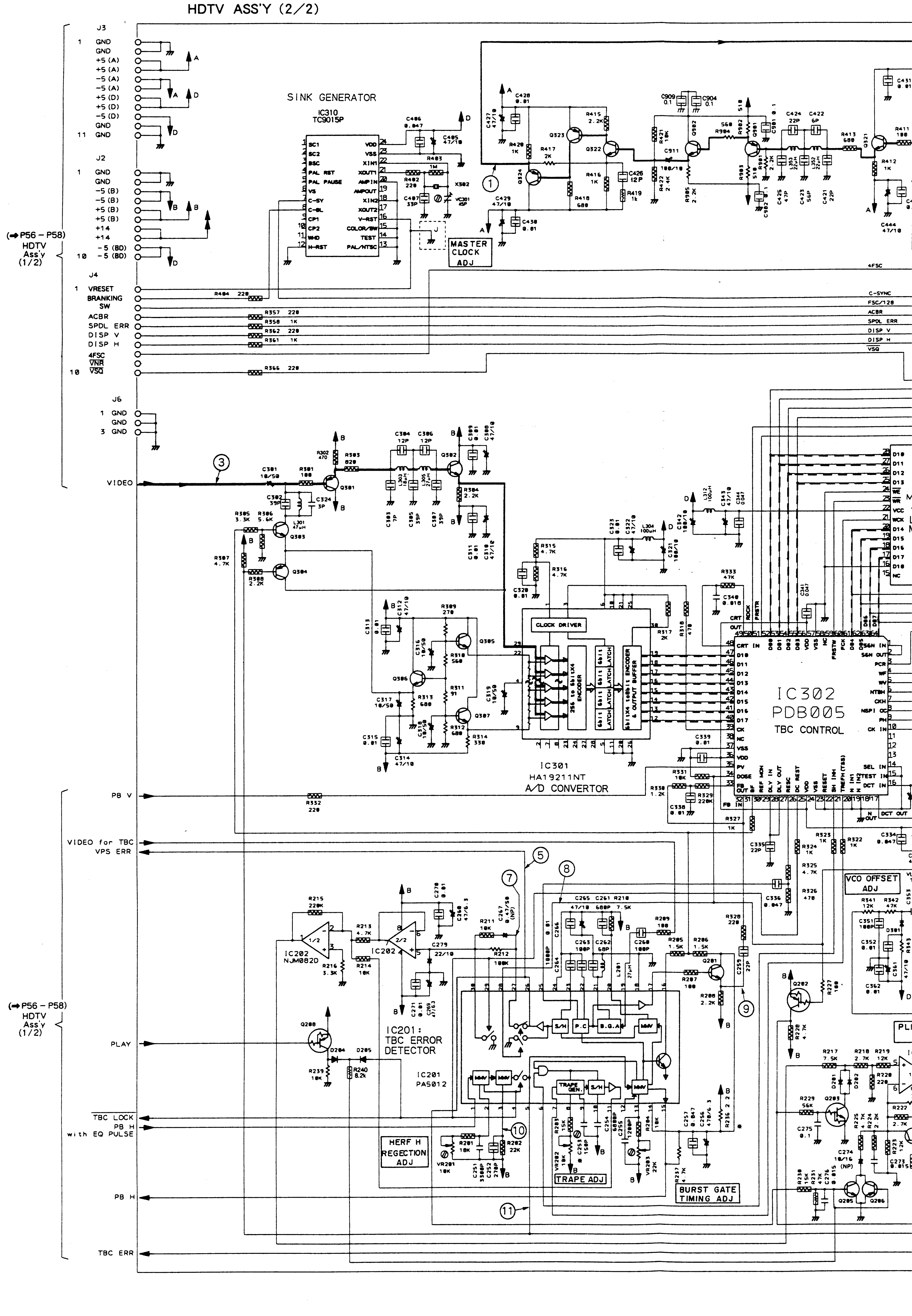



HDTV Ass'y
IC301 IC303 IC304
IC301 IC302 Q302 Q3
Q901 Q9
Q305-Q307
IC301 IC309
IC311
Q304
Q303
VR302
Q311
VR301
IC305
IC306 Q312
IC302
IC308
IC307
VIDEO OUT
S-VIDEO OUT
YCSB Ass'y CN2
Q528 Q527 Q526 Q520 Q951 Q952
IC501 Q509 Q510 Q505 Q502
Q322-Q324 Q516 Q511-Q515 Q517 Q518 Q529 Q530
Q704 Q706 Q702
YCSB Ass'y CN1
SYF

HDTV Ass'y

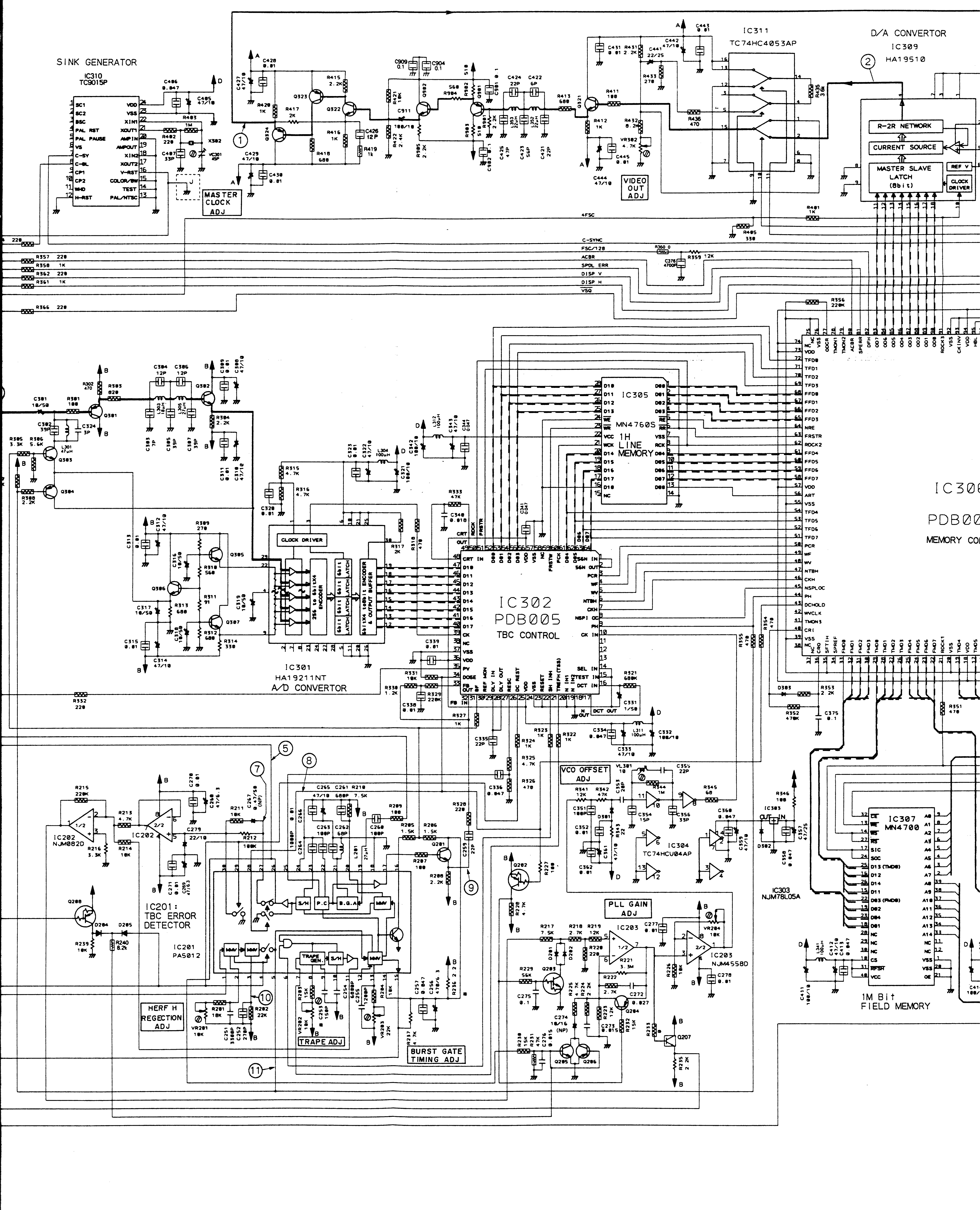

① Q324 Emitter
0.75Vp-p
② IC309-Pin4
1Vp-p
③ C301 – side
2Vp-p
④ R209 VIDEO
⑤ IC201-Pin26
⑥ IC202-Pin1
⑦ IC201-Pin27
2.2mS
⑧ IC201-Pin28
5Vp-p
⑨ Q201 Emitter
3.4μS
⑩ IC201-Pin3
52μS
3.2Vp-p
SPDL LOCK
⑪ IC201-Pin5
5Vp-p
5Vp-p

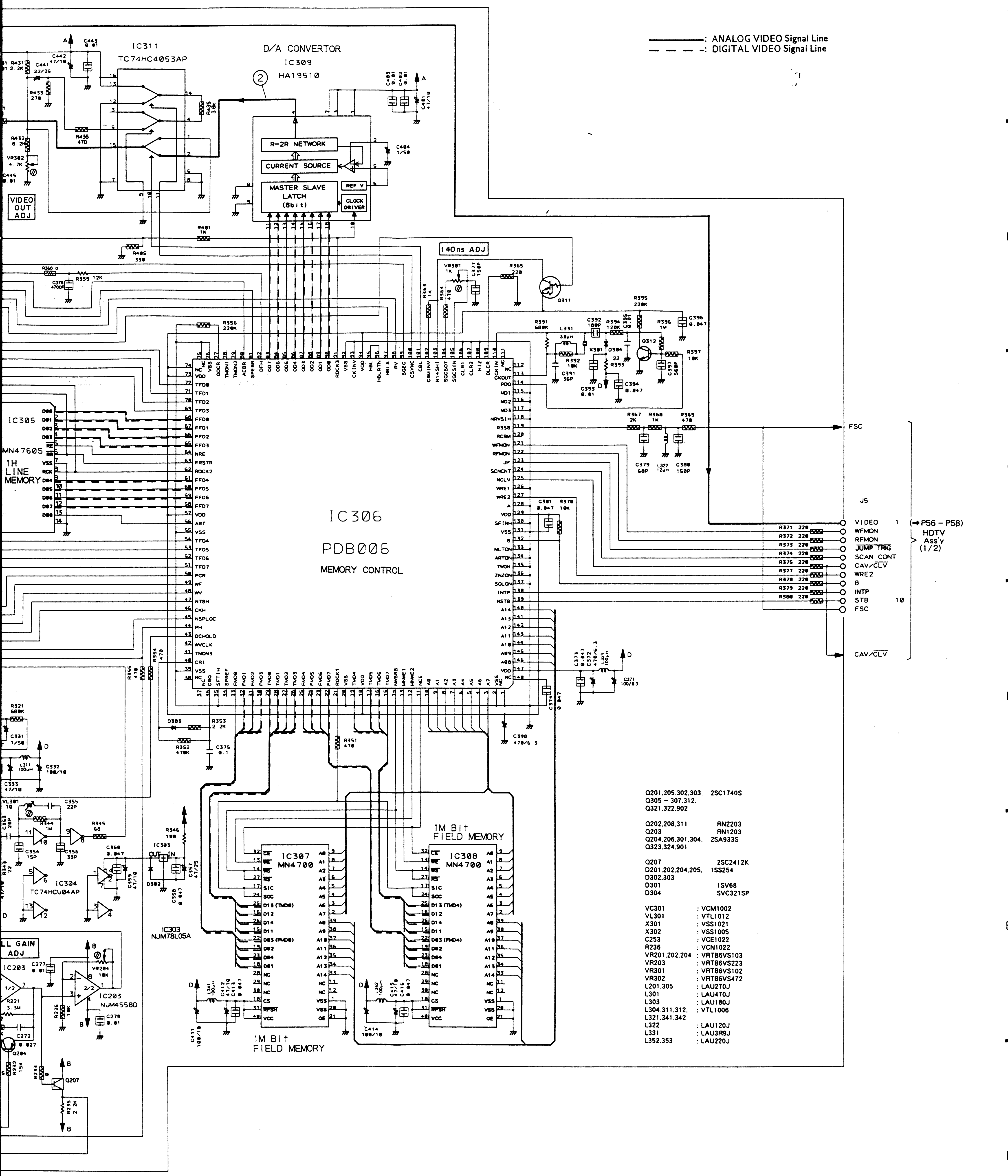
5.8 HDTV ASSEMBLY(2/2)


HDTV ASS'Y (2/2)
J3
GND
+5 (A)
-5 (A)
+5 (D)
-5 (D)
J2
-5 (B)
+5 (B)
+14
-5 (BD)
(➡ P56 – P58) HDTV Ass'y (1/2)
J4
VRESET
BRANKING SW
ACBR
SPDL ERR
DISP V
DISP H
4FSC
VNR
VSQ
J6
VIDEO
SINK GENERATOR
IC310 TC9015P
MASTER CLOCK ADJ
X302
VC301
4FSC
C-SYNC
FSC/128
ACBR
SPDL ERR
DISP V
DISP H
VSQ
CLOCK DRIVER
256 to 6bit×4 ENCODER
6bit LATCH
6bit×4 10bit ENCODER & OUTPUT BUFFER
IC301 HA19211NT A/D CONVERTOR
IC302 PDB005 TBC CONTROL
PB V
VIDEO for TBC
VPS ERR
IC202 NJM082D
IC201: TBC ERROR DETECTOR
IC201 PA5012
S/H
P.C
B.G.A
MMV
TRAPE GEN.
HERF H REGECTION ADJ
TRAPE ADJ
BURST GATE TIMING ADJ
VCO OFFSET ADJ
PLAY
TBC LOCK
PB H with EQ PULSE
PB H
TBC ERR
① ③ ⑤ ⑦ ⑧ ⑨ ⑩ ⑪
1 2 3 4
A B C D E F

Pion 3097

ASS'Y (2/2)


SINK GENERATOR
IC310
TC9015P
SC1
SC2
BSC
PAL RST
PAL PAUSE
VS
C-SY
C-BL
CP1
CP2
WHD
H-RST
VDD
VSS
XIN1
XOUT1
AMPIN
AMPOUT
XIN2
XOUT2
V-RST
COLOR/BW
TEST
PAL/NTSC
X302
VC301
MASTER CLOCK ADJ
①
Q323
Q322
Q324
Q902
Q901
Q321
VIDEO OUT ADJ
IC311
TC74HC4053AP
D/A CONVERTOR
IC309
HA19510
②
R-2R NETWORK
CURRENT SOURCE
MASTER SLAVE LATCH (8bit)
REF V
CLOCK DRIVER
4FSC
C-SYNC
FSC/128
ACBR
SPDL ERR
DISP V
DISP H
VSQ
Q301
Q302
Q303
Q304
Q305
Q306
Q307
IC305
MN4760S
1H LINE MEMORY
CLOCK DRIVER
256 to 6bit×4 ENCODER
LATCH
6bit×4 to 8bit ENCODER & OUTPUT BUFFER
IC301
HA19211NT
A/D CONVERTOR
IC302
PDB005
TBC CONTROL
IC306
PDB00
MEMORY CO
VCO OFFSET ADJ
IC304
TC74HCU04AP
IC303
NJM78L05A
IC307
MN4700
1M Bit FIELD MEMORY
⑤
⑦
⑧
⑨
⑩
⑪
IC202
NJM082D
IC202
IC201: TBC ERROR DETECTOR
IC201
PA5012
S/H
P.C
B.G.A
MMV
TRAPE GEN.
HERF H REGECTION ADJ
TRAPE ADJ
BURST GATE TIMING ADJ
PLL GAIN ADJ
IC203
NJM4558D
Q201
Q202
Q203
Q204
Q205
Q206
Q207
Q208
D204
D205

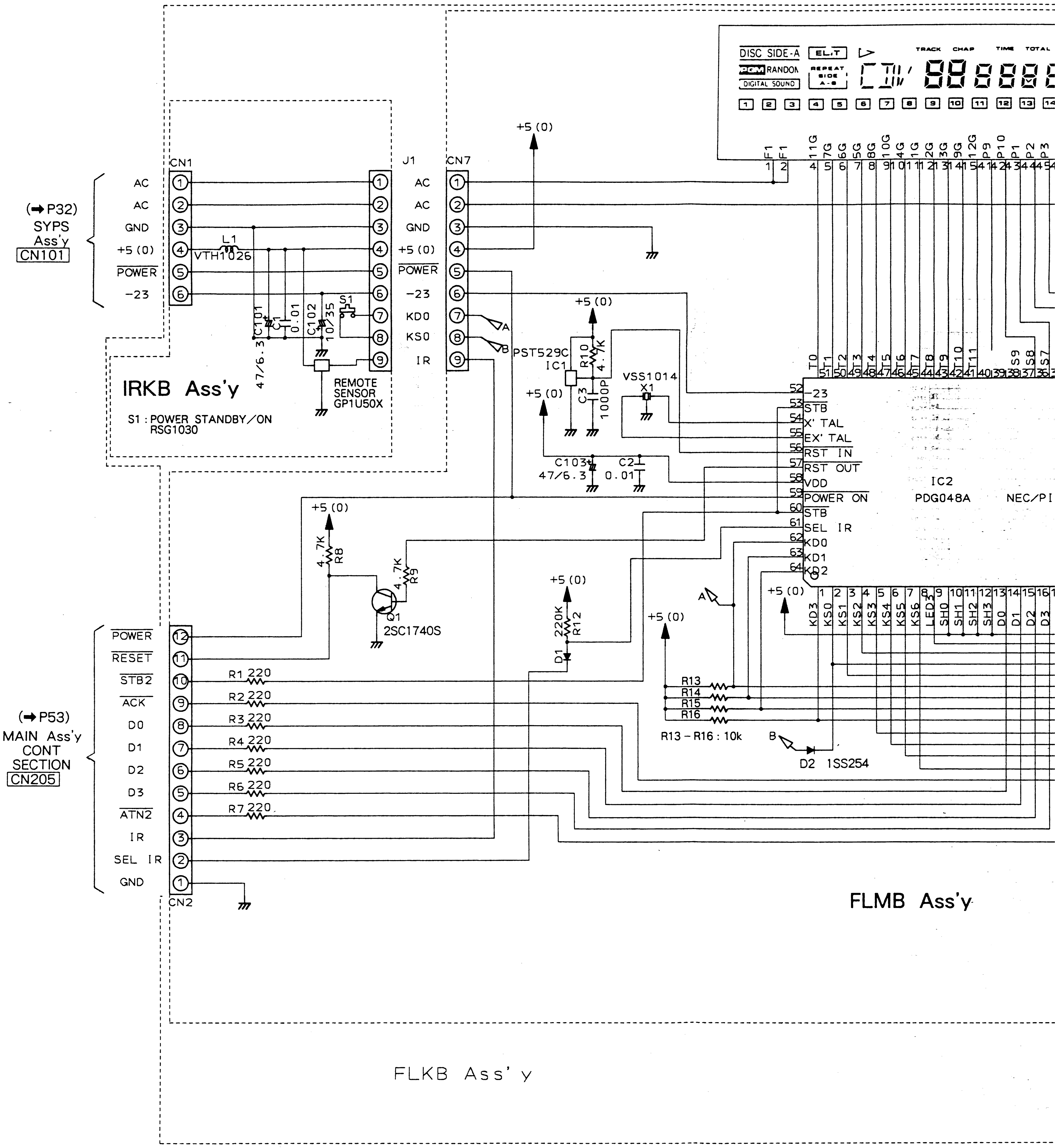

IC311
TC74HC4053AP
D/A CONVERTOR
IC309
HA19510
②
R-2R NETWORK
CURRENT SOURCE
MASTER SLAVE LATCH (8bit)
REF V
CLOCK DRIVER
VIDEO OUT ADJ
140ns ADJ
Q311
Q312
IC305
MN4760S
1H LINE MEMORY
IC306
PDB006
MEMORY CONTROL
IC307
MN4700
IC308
MN4700
1M Bit FIELD MEMORY
1M Bit FIELD MEMORY
IC303
NJM78L05A
IC304
TC74HCU04AP
IC203
NJM4558D
LL GAIN ADJ
Q207
Q204
FSC
J5
VIDEO
WFMON
RFMON
JUMP TRIG
SCAN CONT
CAV/CLV
WRE2
B
INTP
STB
FSC
CAV/CLV
(➡P56 – P58)
HDTV Ass'y (1/2)

——————: ANALOG VIDEO Signal Line
– – – –: DIGITAL VIDEO Signal Line

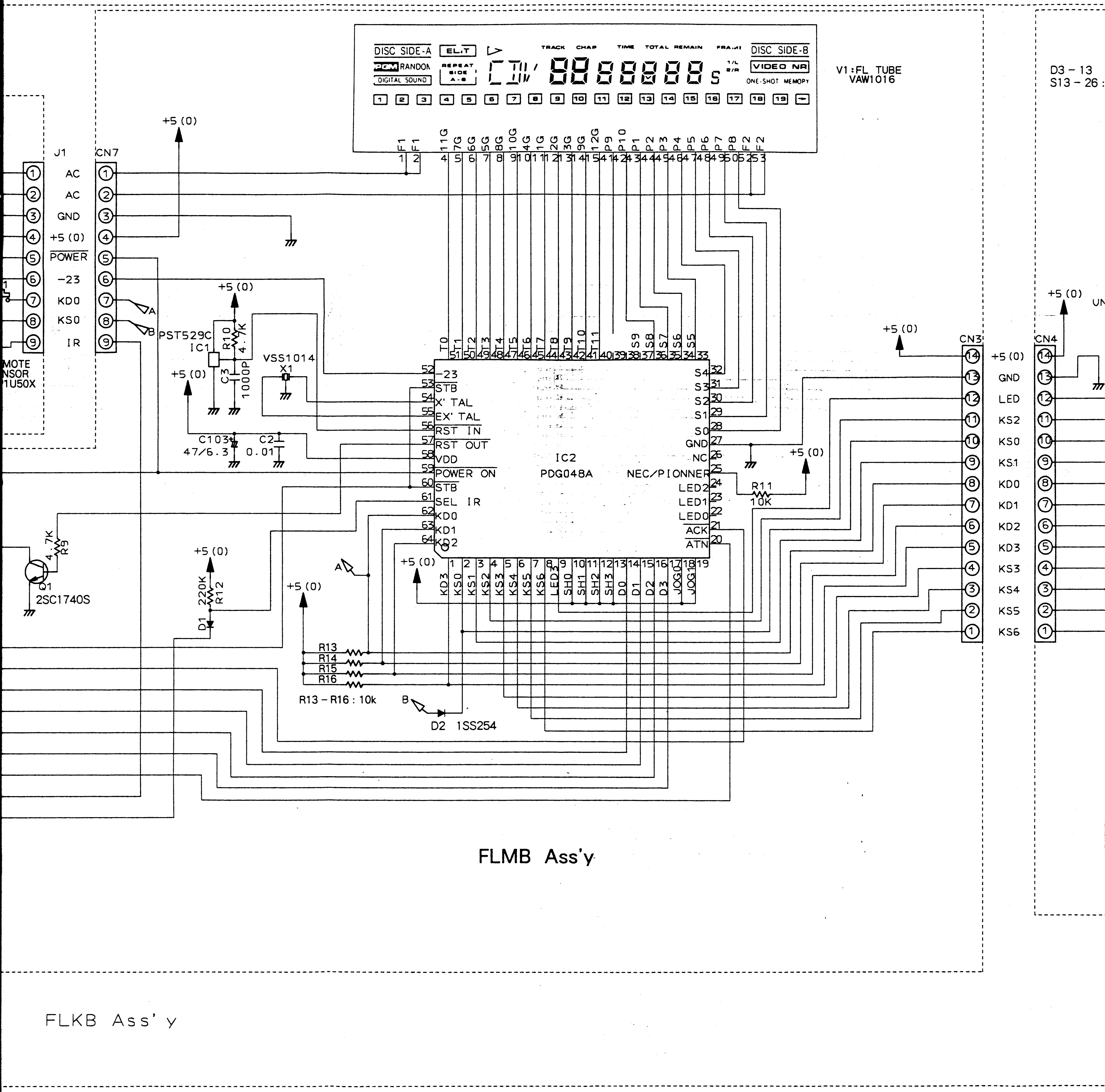
Q201.205.302.303. Q305 – 307.312. Q321.322.902	2SC1740S
Q202.208.311	RN2203
Q203	RN1203
Q204.206.301.304. Q323.324.901	2SA933S
Q207	2SC2412K
D201.202.204.205. D302.303	1SS254
D301	1SV68
D304	SVC321SP

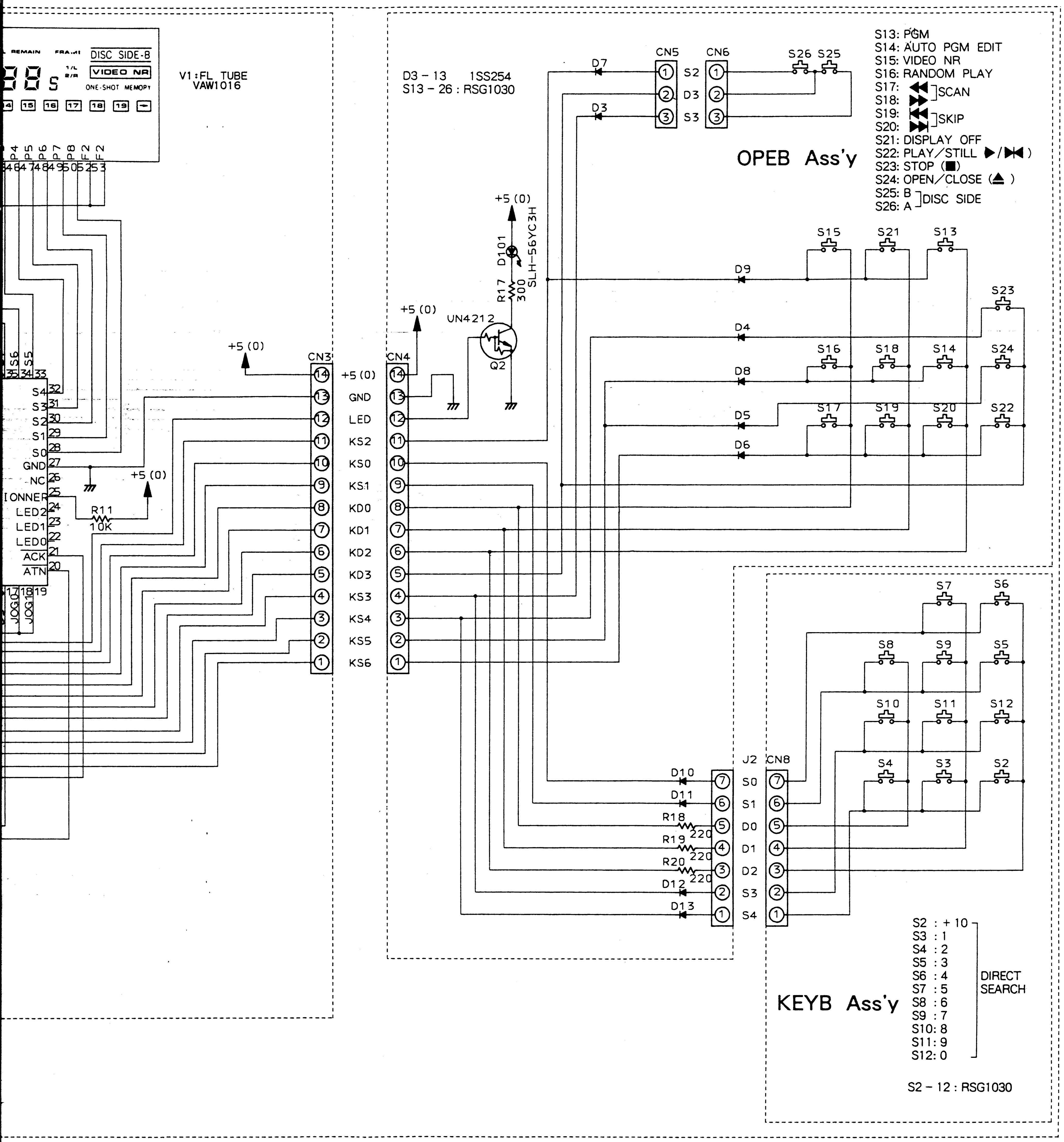
VC301 : VCM1002
VL301 : VTL1012
X301 : VSS1021
X302 : VSS1005
C253 : VCE1022
R236 : VCN1022
VR201.202.204 : VRTB6VS103
VR203 : VRTB6VS223
VR301 : VRTB6VS102
VR302 : VRTB6VS472
L201.305 : LAU270J
L301 : LAU470J
L303 : LAU180J
L304.311.312.
L321.341.342 : VTL1006
L322 : LAU120J
L331 : LAU3R9J
L352.353 : LAU220J

5.9 FIKB ASSEMBLY (IRKB, FIMB, OPEB, KEYB ASSEMBLY)


(➔P32)
SYPS
Ass'y
CN101
AC
AC
GND
+5 (0)
POWER
-23
CN1
L1
VTH1026
C101
47/6.3
C1
0.01
C102
10/35
S1
J1
KD0
KS0
IR
CN7
REMOTE
SENSOR
GP1U50X
IRKB Ass'y
S1 : POWER STANDBY/ON
RSG1030
+5 (0)
PST529C
IC1
R10
4.7K
C3
1000P
VSS1014
X1
C103
47/6.3
C2
0.01
A
B
DISC SIDE-A
EL.T
RANDOM
DIGITAL SOUND
REPEAT
SIDE
A-B
TRACK
CHAP
TIME
TOTAL
52 -23
53 STB
54 X' TAL
55 EX' TAL
56 RST IN
57 RST OUT
58 VDD
59 POWER ON
60 STB
61 SEL IR
62 KD0
63 KD1
64 KD2
IC2
PDG048A
NEC/PI
R8
4.7K
R9
4.7K
Q1
2SC1740S
R12
220K
D1
R13
R14
R15
R16
R13 - R16 : 10k
D2 1SS254
KD3
KS0
KS1
KS2
KS3
KS4
KS5
KS6
LED3
SH0
SH1
SH2
SH3
D0
D1
D2
D3
(➔P53)
MAIN Ass'y
CONT
SECTION
CN205
POWER
RESET
STB2
ACK
D0
D1
D2
D3
ATN2
IR
SEL IR
GND
CN2
R1 220
R2 220
R3 220
R4 220
R5 220
R6 220
R7 220
FLMB Ass'y
FLKB Ass'y

ASSEMBLY)


DISC SIDE-A
EL.T
PCM RANDOM
DIGITAL SOUND
REPEAT SIDE A-B
TRACK CHAP TIME TOTAL REMAIN FRAME
DISC SIDE-B
VIDEO NR
ONE-SHOT MEMORY
V1:FL TUBE
VAW1016
D3 - 13
S13 - 26
+5 (0)
J1
CN7
AC
AC
GND
+5 (0)
POWER
-23
KD0
KS0
IR
MOTE
NSOR
1U50X
PST529C
IC1
R10
4.7K
C3
1000P
VSS1014
X1
C103
47/6.3
C2
0.01
IC2
PDG048A
-23
STB
X' TAL
EX' TAL
RST IN
RST OUT
VDD
POWER ON
STB
SEL IR
KD0
KD1
KD2
S4
S3
S2
S1
S0
GND
NC
NEC/PIONNER
LED2
LED1
LED0
ACK
ATN
KD3 KS0 KS1 KS2 KS3 KS4 KS5 KS6 LED3 SH0 SH1 SH2 SH3 D0 D1 D2 D3 JOG0 JOG1
T0 T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 S9 S8 S7 S6 S5
F1 F1 11G 7G 6G 5G 8G 10G 4G 1G 2G 3G 9G 12G P9 P10 P1 P2 P3 P4 P5 P6 P7 P8 F2 F2
R11
10K
R9
4.7K
Q1
2SC1740S
R12
220K
D1
R13
R14
R15
R16
R13 - R16 : 10k
D2 1SS254
A
B
CN3
CN4
+5 (0)
GND
LED
KS2
KS0
KS1
KD0
KD1
KD2
KD3
KS3
KS4
KS5
KS6
UN
FLMB Ass'y
FLKB Ass'y


V1:FL TUBE
VAW1016
DISC SIDE-B
VIDEO NR
ONE-SHOT MEMORY
REMAIN
FRAME
D3 - 13 1SS254
S13 - 26 : RSG1030
CN3
CN4
CN5
CN6
CN8
J2
+5 (0)
GND
LED
KS2
KS0
KS1
KD0
KD1
KD2
KD3
KS3
KS4
KS5
KS6
S0
S1
D0
D1
D2
S3
S4
S2
D3
S3
D7
D3
D9
D4
D8
D5
D6
D10
D11
D12
D13
R18 220
R19 220
R20 220
R11 10K
R17 300
D101 SLH-56YC3H
UN4212
Q2
S4
S3
S2
S1
S0
GND
NC
IONNER
LED2
LED1
LED0
ACK
ATN
JOG0
JOG1
S6
S5
P4
P5
P6
P7
P8
F2
F2
S26
S25
S15
S21
S13
S23
S16
S18
S14
S24
S17
S19
S20
S22
S7
S6
S8
S9
S5
S10
S11
S12
S4
S3
S2

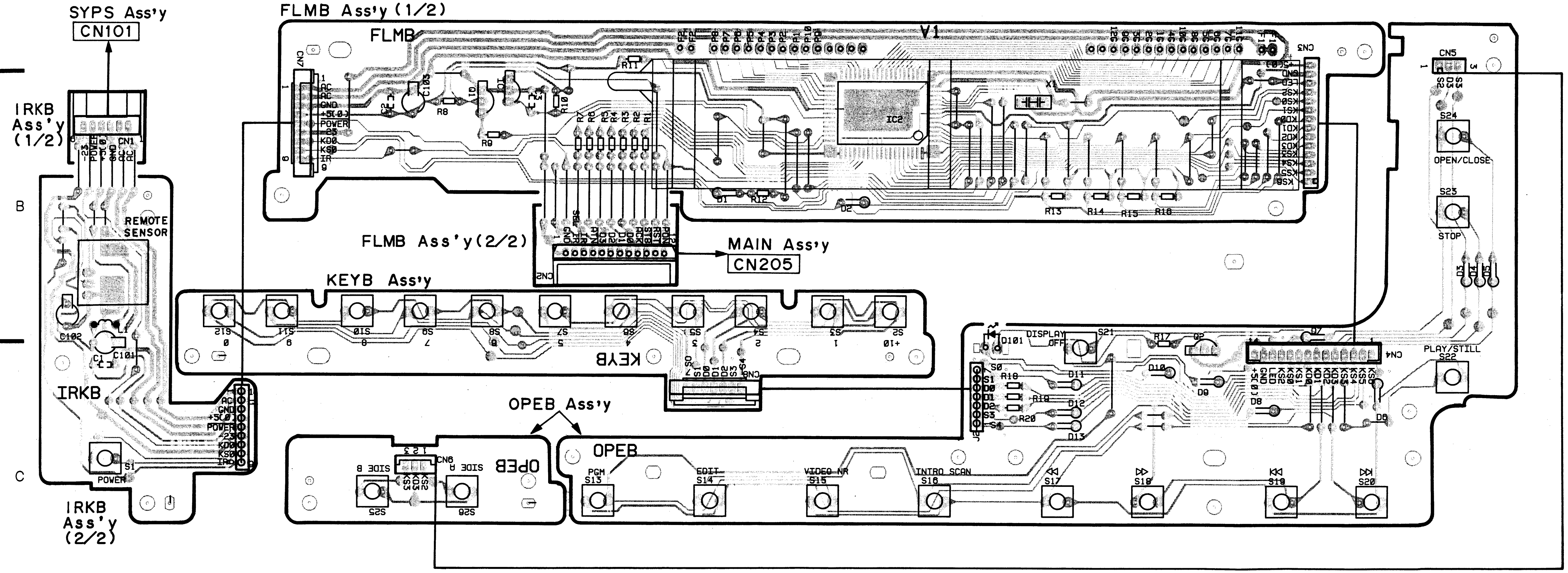
OPEB Ass'y

S13: PGM
S14: AUTO PGM EDIT
S15: VIDEO NR
S16: RANDOM PLAY
S17: ◀◀]SCAN
S18: ▶▶
S19: ◀◀]SKIP
S20: ▶▶
S21: DISPLAY OFF
S22: PLAY/STILL (▶/▶◀)
S23: STOP (■)
S24: OPEN/CLOSE (⏏)
S25: B]DISC SIDE
S26: A

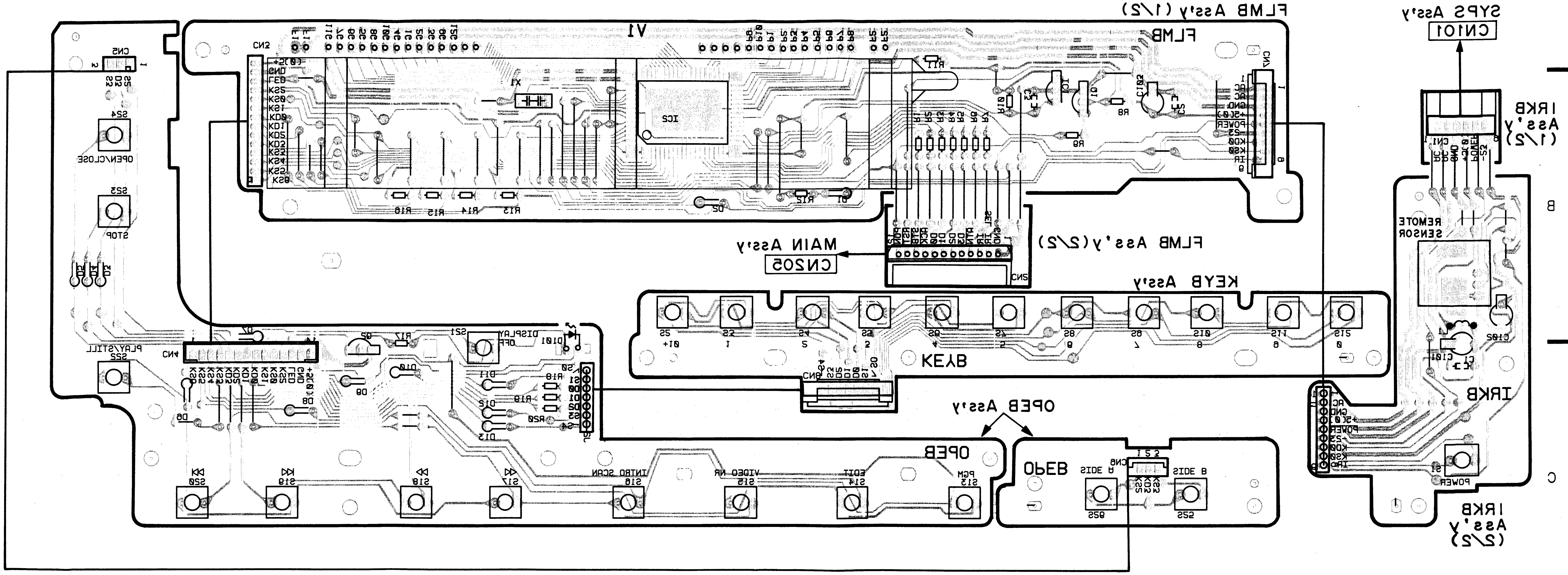
KEYB Ass'y

S2 : + 10
S3 : 1
S4 : 2
S5 : 3
S6 : 4
S7 : 5
S8 : 6
S9 : 7
S10: 8
S11: 9
S12: 0
DIRECT SEARCH

S2 - 12 : RSG1030

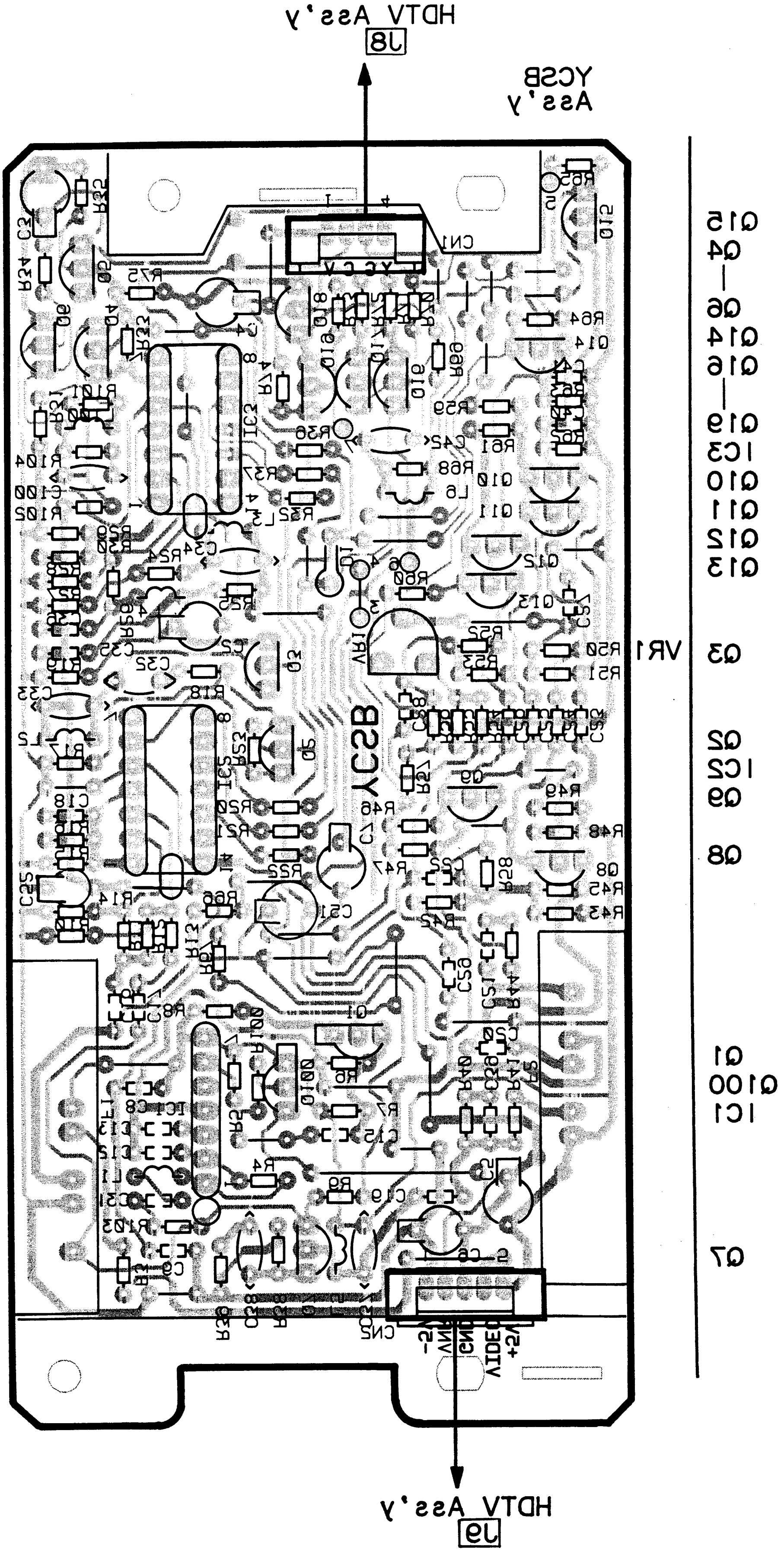

SYPS Ass'y
CN101
IRKB Ass'y (1/2)
CN1
-23
POWER
+5(0)
GND
AC
AC
REMOTE SENSOR
C102
C1
C101
IRKB
AC
GND
+5(0)
POWER
-23
KD0
KS0
IR
S1
POWER
IRKB Ass'y (2/2)
FLMB Ass'y (1/2)
FLMB
CN7
AC
AC
GND
+5(0)
POWER
-23
KD0
KS0
IR
C103
C102
Q1
Q2
R8
R9
R10
R11
R1
R2
R3
R4
R5
R6
R7
V1
X1
IC2
D1
D2
R12
R13
R14
R15
R16
CN3
GND
LED
KS0
KS1
KD0
KD1
KD2
KD3
KS2
KS3
KS4
KS5
KS6
FLMB Ass'y(2/2)
CN2
MAIN Ass'y
CN205
KEYB Ass'y
S12
S11
S10
S9
S8
S7
S6
S5
S4
S3
S2
KEYB
0
9
8
7
6
5
4
3
2
1
+10
CN1
OPEB Ass'y
OPEB
CN6
SIDE B
SIDE A
S25
S26
PGM
S13
EDIT
S14
VIDEO NR
S15
INTRO SCAN
S16
S17
S18
S19
S20
D101
DISPLAY OFF
S21
R17
Q2
D7
D10
D9
D8
D6
D11
D12
D13
R18
R19
R20
S0
S1
D0
D1
D2
S3
S4
CN4
+5(0)
GND
LED
KS0
KS1
KS2
KD0
KD1
KD2
KD3
KS3
KS4
KS5
KS6
PLAY/STILL
S22
CN5
S24
OPEN/CLOSE
S23
STOP
D3
D4
D5

This P.C.B. connection diagram is viewed from the foil side.

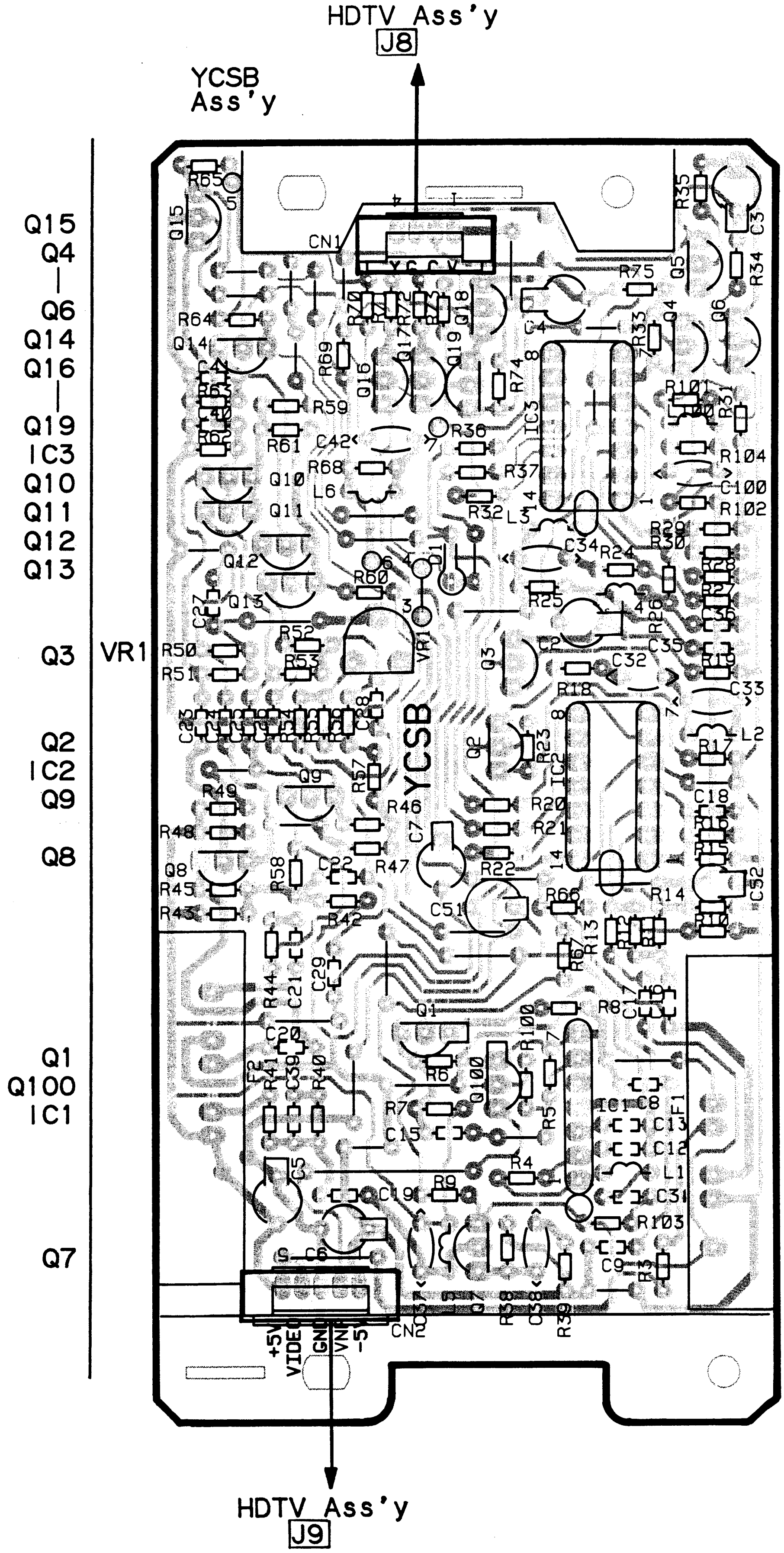

FLMB Ass'y (1/2)
FLMB
V1
IC2
SYPS Ass'y
CN101
IRKB Ass'y (1/2)
MAIN Ass'y
CN205
FLMB Ass'y (2/2)
KEYB Ass'y
KEYB
OPEB Ass'y
OPEB
IRKB
IRKB Ass'y (2/2)
REMOTE SENSOR
POWER
OPEN/CLOSE
STOP
PLAY/STILL
DISPLAY OFF
INTRO SCAN
VIDEO NR
EDIT
PGM
SIDE A
SIDE B

This P.C.B. connection diagram is viewed from the foil side.

5.10 YCSB ASSEMBLY


HDTV Ass'y
J8
YCSB
Ass'y
CN1
YCSB
VR1
CN2
-5V
VNG
GND
VIDEO
+5V
HDTV Ass'y
J9
Q15
Q4—Q6
Q14
Q16—Q19
IC3
Q10
Q11
Q12
Q13
Q3
Q2
IC2
Q9
Q8
Q1
Q100
IC1
Q7

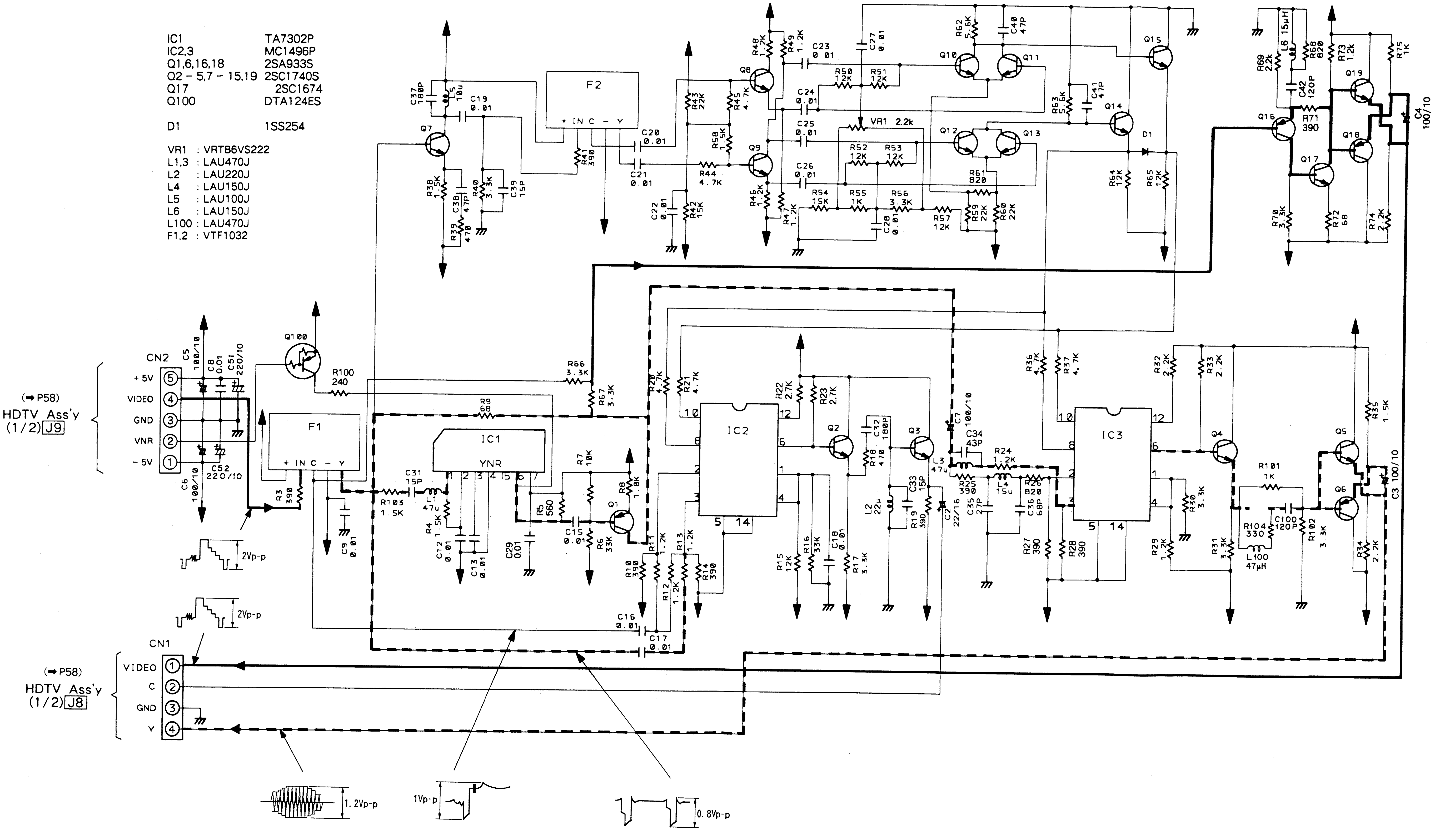
5.10 YCSB ASSEMBLY


HDTV Ass'y
J8
YCSB Ass'y
Q15
Q4
|
Q6
Q14
Q16
|
Q19
IC3
Q10
Q11
Q12
Q13
Q3
VR1
Q2
IC2
Q9
Q8
Q1
Q100
IC1
Q7
CN1
YCSB
IC1
IC2
IC3
CN2
+5V
VIDEO
GND
VNR
-5V
HDTV Ass'y
J9

YCSB Ass'y

IC1	TA7302P
IC2,3	MC1496P
Q1,6,16,18	2SA933S
Q2 – 5,7 – 15,19	2SC1740S
Q17	2SC1674
Q100	DTA124ES
D1	1SS254

VR1 : VRTB6VS222
L1,3 : LAU470J
L2 : LAU220J
L4 : LAU150J
L5 : LAU100J
L6 : LAU150J
L100 : LAU470J
F1,2 : VTF1032


F2
+ IN C – Y
Q7
L5 10u
C37 180P
C19 0.01
R38 1.5K
C38 47P
R39 470
R40 3.3K
C39 15P
R41 390
C20 0.01
C21 0.01
R43 22K
R45 4.7K
R58 1.5K
R44 4.7K
C22 0.01
R42 15K
Q8
Q9
R48 1.2K
R49 1.2K
C23 0.01
C27 0.01
R46 1.2K
R47 1.2K
C24 0.01
C25 0.01
C26 0.01
R50 12K
R51 12K
VR1 2.2k
R52 12K
R53 12K
R54 15K
R55 1K
R56 3.3K
C28 0.01
R57 12K
R59 22K
R60 22K
R61 820
Q10
Q11
Q12
Q13
R62 5.6K
C40 47P
R63 5.6K
C41 47P
Q14
Q15
D1
R64 12K
R65 12K
L6 15μH
R69 22K
R68 820
C42 120P
R73 1.2K
R75 1K
Q19
Q16
R71 390
Q18
C4 100/10
Q17
R70 3.3K
R72 68
R74 2.2K
CN2
+5V ⑤
VIDEO ④
GND ③
VNR ②
–5V ①
C5 100/10
C8 0.01
C51 220/10
C6 100/10
C52 220/10
(➡P58)
HDTV Ass'y (1/2) J9
Q100
R100 240
F1
+ IN C – Y
R3 390
2Vp-p
R66 3.3K
R67 3.3K
R9 68
IC1
YNR
C31 15P
L1 47u
R103 1.5K
R4 1.5K
C12 0.01
C13 0.01
C29 0.01
C9 0.01
R5 560
R7 10K
R8 1.8K
Q1
C15 0.01
R6 33K
R10 390
R11 1.2K
R12 1.2K
R13 1.2K
R14 390
C16 0.01
C17 0.01
R20 4.7K
R21 4.7K
IC2
R22 2.7K
R23 2.7K
Q2
C32 180P
R18 470
Q3
L3 47u
L2 22μ
C33 15P
R19 390
C2 22/16
R15 12K
R16 33K
C18 0.01
R17 3.3K
C7 100/10
C34 43P
R24 1.2K
R25 390
L4 15u
R26 820
C35 27P
C36 68P
R27 390
R28 390
R36 4.7K
R37 4.7K
IC3
R32 2.2K
R33 2.2K
Q4
R101 1K
R30 3.3K
R29 1.2K
R31 3.3K
R104 330
C100 120P
L100 47μH
R102 3.3K
Q5
Q6
R35 1.5K
R34 2.2K
C3 100/10
2Vp-p
CN1
VIDEO ①
C ②
GND ③
Y ④
(➡P58)
HDTV Ass'y (1/2) J8
1.2Vp-p
1Vp-p
0.8Vp-p

———— : VIDEO Signal Line
– – – – : Y Signal Line
: C Signal Line

6. P.C.B's PARTS LIST

NOTES :

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 *When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).*

560Ω 56×10^1 *561* ………………………… $RD1/4PS\boxed{5}\boxed{6}\boxed{1}J$
47kΩ 47×10^3 *473* ………………………… $RD1/4PS\boxed{4}\boxed{7}\boxed{3}J$
0.5Ω *0R5* ………………………… $RD2H\boxed{0}\boxed{R}\boxed{5}K$
1Ω *010* ………………………… $RD1P\boxed{0}\boxed{1}\boxed{0}K$

Ex.2 *When there are 3 effective digits (such as in high precision metal film resistors).*

5.62kΩ 562×10^1 *5621* ………………………… $RD1/4SR\boxed{5}\boxed{6}\boxed{2}\boxed{1}F$

Miscellaneous Parts

Mark	No. Description	Parts No.
	JCER assembly	
	JCCB assembly	
	ERRM assembly	
◉	MAIN assembly	VWS1099
	CNNB assembly	
	FGSB assembly	
	PRET assembly	
	PREB assembly	
	HDTV assembly	
	DFDA assembly	
	DFDB assembly	
	RDAB assembly	
	LDAB assembly	
	PLFB assembly	VWR1097
◉	SYLF assembly	VWM1170
	SYPS assembly	
	SPRT assembly	
	TRSB assembly	
	FLKB assembly	
	FLMB assembly	
	IRKB assembly	
	KEYB assembly	
	OPEB assembly	
	YCSB assembly	
◉	AUDB assembly	VWV1201
	LHSB assembly	
	LVSB assembly	
◉	Carriage assembly	VWT1054
	Pickup assembly	VWY1019
⚠	Power cord	VDG1046
⚠	FU1,FU2,FU5 Fuse(3A)	VEK-018
⚠	FU3, FU4 Fuse(2A)	VEK-022
	S1 Door Switch	VSK1014
⚠	Power transformer	VTT1093
	Loading motor V assembly-S	VXX1324
	Loading motor H assembly-S	VXX1328
	S3,S4 Slide switch (CDV/LD A INSIDE, LD B INSIDE)	VSK1003

Mark	No. Description	Parts No.
	S5 Slide Switch (CD INSIDE, HEIGHT UP,DOWN)	VSK1009
	Spindle motor	VXM1044
	Tilt (Height) Motor assembly-S	VXX1227
	Slider motor assembly-S	VXX1329
	IC205 Program PROM-S (Mounted on MAIN assembly)	PDK012A

JCER Assembly

JCER assembly is composed of JCCB and ERRM assemblies.

JCCB Assembly

SEMICONDUCTORS

Mark	No. Description	Parts No.
	IC1,IC2	NJM4558D
	Q1,Q4	2SA933S
	Q2,Q3	2SC1740
	Q5	DTC124ES

CAPACITORS

Mark	No. Description	Parts No.
	C5,C12	CEANP101M6R3
	C1	CEANP330M10
	C2	CEANP4R7M16
	C3,C4,C6,C7	CEAS101M16
	C8	CFTXA474J50
	C9	CFTXA224J50
	C10	CFTXA564J50
	C11	CEAS470M16

RESISTORS

Mark	No. Description	Parts No.
	VR1 Semi-fixed(22kΩ)	VRTB6VS223
	Other Resistors	RD1/6PM□□□J

ERRM Assembly

There is not supply parts in this assembly

◉MAIN Assembly (VWS1099)

SEMICONDUCTORS

Mark	No. Description	Parts No.
	IC201,IC307,IC402	BA15218
	IC101,IC105,IC301,IC304	BA15218N
	IC302	BU4053B
	IC109,IC202	BU74HC00
	IC208	BU74HC02
	IC207	CXD1095Q
	IC204	HD63B03YP
	IC309	IR2339
	IC308	LA6500
	IC303,IC306	LA6510
	IC104,IC206	LC3517BL-15
	IC103	LC7863K
	IC401	NJM4558S
	IC102,IC305	NJU4053BD
	IC203	PD0011A
	IC210,IC211	TA7291P
	IC209	TC74HC30AP
	IC108,IC110	TC74HC74AP
	IC106	YM3613B
	Q205,Q320,Q403,Q406,Q409,Q410	DTA124EK
	Q201,Q319,Q322,Q323,Q401,Q407	DTC124EK
	Q408	RPT-34PB3F
	Q301,Q303,Q305,Q312,Q314	UN4112
	Q207,Q304,Q307,Q313,Q318, Q321	UN4212
	Q204,Q310,Q311,Q317,Q308	UN4215
	Q405	2SA1037K
	Q102,Q107,Q110,Q306,Q315	2SA933S
	Q101,Q105,Q106,Q109,Q309,Q316	2SC1740S
	Q103,Q202,Q203,Q404	2SC2412K
	Q206	2SC2786
	Q302,Q402	2SK184
	D102	FC54M
	D203	HZS6.2NB2
	D204	HZS8.2NB2
	D101	KV1225YBR
	D205,D206,D301 – D316, D400-D403,D405-D407	1SS254

COILS

Mark	No. Description	Parts No.
	L101,L103	LAU151K
	L102	LAU181J
	L108,L301,L302	LAU220J
	L201	LAU221J
	L105	LAU5R6J
	L106,L107,L110,L111	LFA220J
	VL101 Variable Coil	VTL-275

CAPACITORS

Mark	No. Description	Parts No.
	C109,C111,C400	CCSQCH101J50
	C102	CCSQCH121J50
	C152,C153,C207	CCSQCH220J50
	C110	CCSQCH270J50
	C147,C155,C202,C203	CCSQCH330J50
	C333 – C335,C346	CCSQCH470J50
	C105	CCSQCH560J50
	C108,C112	CCSQCH680J50
	C123,C312	CCSQSL331J50
	C145	CCSQSL391J50
	C146	CCSQCH300J50
	C157	CCSQSL471J50
	C103	CCSQSL561J50
	C501	CKSQYB272K50
	C126	CCSQUJ221J50
	C125	CCSQUJ330J50
	C205	CEAL101M6R3
	C308	CEANPR47M50
	C316	CEANP100M16
	C134	CEANP2R2M50
	C201,C337	CEANP220M10
	C104,C115	CEASR47M50
	C120,C314	CEAS010M50
	C121,C122,C131,C132,C135,C136	CEAS100M50
	C143,C158 – C160,C209,C214	CEAS101M10
	C347	CEAS2R2M50
	C401	CEAS220M35
	C144	CEAS220M50
	C107,C113	CEAS4R7M50
	C216,.C310	CEAS470M25
	C215	CEAS471M6R3
	C311,C330,C331,C340,C341	CEHAQ470M25
	C139,C307,C313,C332,C348, C349,C353	CFTXA104J50
	C323	CFTXA124J50
	C321,C324	CFTXA184J50
	C329	CFTXA334J50
	C137,C140	CFTXA471J50
	C305,C336	CFTXA473J50
	C127,C129	CFTXA474J50
	C328	CFTXA683J50
	C141	CFTXA823J50
	C219	CGCYX473M25
	C117	CKCYF103Z50
	C101,C119	CKCYF223Z50
	C210,C213	CKPUYF223Z25
	C360	CKSQYB102K50
	C502	CKSQYB182K50
	C204,C402 – C404	CKSQYF103Z50
	C161 – C163,C165,C167,C168, C206,C208,C211,C212,C217,C218, C301 – C304,C325,C326,C338, C339,C345,C350	CKSQYF104Z25

Mark	No. Description	Parts No.
	C118	CKSQYF223Z50
	C315	CQMA122J50
	C114,C344	CQMA222J50
	C124,C342	CQMA223J50
	C343	CQMA332J50
	C306	CQMA333J50
	C106	CQMA392J50
	C322,C327,C354	CQMA472J50
	C320,C503	CQMA682J50
	C355	CQMA822J50
	C309 (22μ/10V)	VCH1067
	VC201 Ceramic trimmer(45p)	VCM-003

RESISTORS

Mark	No. Description	Parts No.
	VR101 Semi-fixed(22kΩ)	VRTB6VS223
	R223 Resistor-array	RA11T103J
	R323,R359	RD1/2PMF☐☐☐J
	R162,R206,R236,R237,R305,R309, R318,R322,R325,R334,R335,R339, R344,R350,R368,R371,R379,R401, R402,R413,R424	RD1/6PM☐☐☐J
	Other Resistors	RS1/10S☐☐☐J

OTHERS

Mark	No. Description	Parts No.
	CN209 5P connector	VKN1087
	CN213 23P Connector(FFC)	VKN1088
	JA101 Optical output jack	GP1F32T
	X201 Ceramic resonator	KBR-8.0M
	X101 Crystal resonator(16MHz)	VSS1004
	28 Pin IC socket	VKH1001
	2P mini jack	VKN1034

CNNB Assembly

RESISTOR

Mark	No. Description	Parts No.
	R301	RS1/10S472J

OTHER

Mark	No. Description	Parts No.
	CN911 5P connector	VKN1086

FGSB Assembly

SEMICONDUCTOR

Mark	No. Description	Parts No.
	D401	GP1S51

RESISTOR

Mark	No. Description	Parts No.
	R401	RS1/10S221J

PRET Assembly

SEMICONDUCTORS

Mark	No. Description	Parts No.
	IC201	BA15218
	Q201,Q202	2SC1740S

CAPACITORS

Mark	No. Description	Parts No.
	C201	CCSQSL331J50
	C202 – C205	CKSQYF104Z25

RESISTORS

Mark	No. Description	Parts No.
	VR201 Semi-fixed(1kΩ)	VRTB6VS102
	VR202,VR203 Semi-fixed(4.7kΩ)	VRTB6VS472
	Other resistors	RS1/10S☐☐☐J

OTHERS

Mark	No. Description	Parts No.
	CN905 6P Connector	VKN1082
	CN906 8P Connector	VKN1083

PREB Assembly

SEMICONDUCTORS

Mark	No. Description	Parts No.
	IC101	BA15218
	IC102	IR3C02A

CAPACITORS

Mark	No. Description	Parts No.
	C101,C102	CEJA101M10
	C103	CEJANP010M50
	C104	CEAS101M10
	C105	CEAL220M16
	C106	CCSQCH680J50
	C107 – C110,C112	CKSQYF104Z25
	C111	CKSQYF103Z50

RESISTORS

Mark	No. Description	Parts No.
	VR101-VR103 Semi-fixed(4.7kΩ)	VRTB6VS472
	VR104 Semi-fixed(100kΩ)	VRTB6VS104
	R119	RD1/4PM100J
	Other resistors	RS1/10S☐☐☐J

OTHERS

Mark	No. Description	Parts No.
	CN901 23P Connector	VKN1079
	CN902 29P Connector	VKN1025
	CN903 6P Connector	VKN1080
	CN904 8P Connector	VKN1081

HDTV Assembly

SEMICONDUCTORS

Mark	No. Description	Parts No.
	IC301	HA19211NT
	IC309	HA19510
	IC602	IR9393
	IC307,IC308	MN4700
	IC305	MN4760S
	IC501	M50554-132SP
	IC202	NJM082D
	IC203,IC601	NJM4558D
	IC303	NJM78L05A
	IC101	PA5010
	IC201	PA5012
	IC302	PDB005
	IC306	PDB006
	IC103	PM0001
	IC304	TC74HCU04AP
	IC311	TC74HC4053AP
	IC310	TC9015P
	Q530	DTA124EK
	Q850	DTC124EK
	Q203,Q509	RN1203
	Q202,Q208,Q311,Q601,Q602	RN2203
	Q512	2SA1037K
	Q101.Q102,Q105,Q112,Q204,Q206, Q301,Q304,Q323,Q324,Q505,Q510, Q526,Q702,Q800,Q901	2SA933S
	Q706	2SB1238X
	Q704,Q708	2SB1375
	Q103,Q104,Q106 – Q111,Q113, Q201,Q205,Q302,Q303, Q305 – Q307,Q312,Q321,Q322, Q502,Q520,Q527,Q528,Q701,Q801, Q902,Q951,Q952	2SC1740S
	Q207,Q511,Q513 – Q515,Q518, Q529	2SC2412K
	Q516,Q517	2SC3064
	Q703,Q705,Q707	2SD2012
	D703,D704	HZS5C1
	D304	SVC321SP
	D800	TLN113
	D103,D201,D202,D204,D205,D302, D303,D601 – D603,D651,D652, D705 – D708,D801 – D804	1SS254
	D301	1SV68

COILS AND FILTERS

Mark	No. Description	Parts No.
	L110	LAU101J
	L103 – L105,L113,L322	LAU120J
	L112	LAU121J
	L114,L303	LAU180J
	L102,L352,L353	LAU220J
	L109,L111	LAU221J
	L201,L305	LAU270J
	L331	LAU3R9J
	L501	LAU390J
	L106,L108,L301	LAU470J
	L101,L115	LAU560J
	L107	LAU620J
	L116	LRA561K
	L304,L311,L312,L321,L341,L342 (100μH)	VTL1006
	VL301 Variable Coil	VTL1012
	F503 TRAP (3.58MHz)	VTF1039

CAPACITORS

Mark	No. Description	Parts No.
	C123	CCCCH101J50
	C106	CCCCH151J50
	C391	CCCCH360J50
	C167	CCCSL241J50
	C353	CCPUCH200J50
	C355	CCPUUJ220J50
	C324	CCSQCH030C50
	C422	CCSQCH060D50
	C303	CCSQCH070D50
	C142	CCSQCH100D50
	C509,C510	CCSQCH100D50
	C158,C187,C260,C263,C351,C530	CCSQCH101J50
	C186	CCSQCH111J50
	C131,C133,C145,C304,C306,C426	CCSQCH120J50
	C124,C216,C354,C504	CCSQCH150J50
	C114,C115	CCSQCH160J50
	C177,C179,C377,C380	CCSQCH151J50
	C112	CCSQCH180J50
	C165,C392	CCSQCH181J50
	C259,C335,C421,C424	CCSQCH220J50
	C125,C150	CCSQCH221J50
	C130	CCSQCH270J50
	C126,C160,C252,C516	CCSQCH271J50
	C132,C159,C356,C407	CCSQCH330J50
	C141,C143,C302,C305,C307	CCSQCH390J50
	C138,C183	CCSQCH430J50
	C105,C166,C196,C425	CCSQCH470J50
	C188,C423	CCSQCH560J50
	C262,C379	CCSQCH680J50
	C190	CCSQCH910J50
	C503	CCSQSL471J50
	C397	CCSQSL561J50
	C261	CCSQSL681J50
	C149,C161,C181	CEAL100M16
	C371	CEAL101M6R3
	C182	CEAS330M10
	C564,C566,C573,C951,C954	CEAL470M16
	C268,C269	CEAL470M6R3
	C267	CEANPR47M50
	C604	CEANP010M50
	C274,C534	CEANP100M16
	C605	CEANP100M25
	C195,C279	CEANP220M10
	C501	CEANP470M10
	C111	CEASR47M50
	C331,C404	CEAS010M50

Mark	No. Description	Parts No.
	C301,C316 – C319,C502	CEAS100M50
	C103,C104,C147,C208,C321,C332, C342,C411,C414,C555,C556,C703, C704,C911	CEAS101M10
	C441	CEAS220M25
	C107,C108,C117,C118,C139,C151, C152,C162,C163,C173,C174,C198, C199,C265,C308,C310,C312,C314, C322,C333,C343,C359,C361,C401, C405,C412,C415,C427,C429,C442, C444,C505 – C507,C518,C522, C536,C562,C569,C570,C606,C607, C654,C655,C709,C710,C713,C714, C717,C718	CEAS470M10
	C357	CEAS470M25
	C953,C956	CEAS471M10
	C256,C372,C398	CEAS471M6R3
	C169,C275,C375	CFTXA104J50
	C340	CFTXA183J50
	C602	CFTXA273J50
	C180	CFTXA683J50
	C109,C110,C153,C157,C209,C711, C712,C715,C716,C719,C720	CKPUYY103N16
	C113,C116,C119,C120,C127,C136, C137,C140,C146,C148,C154 – C156, C164,C175,C176,C178,C184,C185, C191 – C193,C197,C200,C201,C212, C266,C270,C271,C277,C278,C309, C311,C313,C315,C320,C323,C338, C339,C352,C362,C393,C402,C403, C428,C430,C431,C443,C445,C513, C514,C517,C519,C523,C537,C557, C558,C563,C571,C608,C609,C652, C653,C656,C657,C705,C706	CKSQYF103Z50
	C264	CKSQYB102K50
	C376	CKSQYB472K50
	C901,C902,C904,C909,C952,C955	CKSQYF104Z25
	C170,C189,C210,C211,C257,C334, C336,C341,C344,C358,C360,C373, C374,C381,C394,C396,C406,C413, C416,C508,C515,C520,C521,C524, C525,C532,C561,C565,C567,C568, C572,C574,C707,C708	CKSQYF473Z25
	C172,C395	CQMA103J50
	C255	CQMA122J50
	C273,C276	CQMA153J50
	C171	CQMA272J50
	C251	CQMA332J50
	C272	CQMA273J50
	C134	CQMA473J50
	C254	CQMA682J50
	C253 (150p)	VCE1022
	VC301 Ceramic trimmer(45P)	VCM1002

RESISTORS

Mark	No. Description	Parts No.
	VR103,VR301 Semi-fixed(1kΩ)	VRTB6VS102
	VR201,VR202,VR204 Semi-fixed(10kΩ)	VRTB6VS103
	VR101 Semi-fixed(220Ω)	VRTB6VS221
	VR102 Semi-fixed(2.2kΩ)	VRTB6VS222
	VR203 Semi-fixed(22kΩ)	VRTB6VS223
	VR104 Semi-fixed(4.7kΩ)	VRTG6VS472
	VR302 Semi-fixed(4.7kΩ)	VRTB6VS472
	R236 (2.2)	VCN1022
	R102 – R104,R139,R140,R152, R611,R615,R661 – R664	RN1/6PQ□□□□F
	R51 – R54,R105,R106,R109,R114, R115,R121,R123,R124,R126,R127, R131,R134,R170,R212,R216,R221, R227,R235,R237,R239,R309 – R314, R341 – R343,R346,R359,R391,R393, R417,R517,R521,R522,R548,R557, R558,R580 – R583,R613,R614,R665, R668,R680,R705 – R708, R901 – R905,R951 – R960	RD1/6PM□□□J
	Other resistors	RS1/10S□□□J

OTHERS

Mark	No. Description	Parts No.
	X301 Crystal resonator	VSS1021
	X302 Crystal resonator	VSS1005
	2P Pin jack	VKB1041
	S connector(8P)	VKN1134

DFDA Assembly

DFDA assembly is composed of DFDB, LDAB and RDAB assemblies.

DFDB Assembly

SEMICONDUCTORS

Mark	No. Description	Parts No.
	IC702	HD74HC153P
	IC701	SM5813AP

CAPACITORS

Mark	No. Description	Parts No.
	C701	CKPUYF103Z25
	C702	CGCYX473M25
	C703	CEAL470M6R3
	C704	CEAS101M10

OTHERS

Mark	No. Description	Parts No.
	PC support	VEC1428
	Cushion	VEC1429
	Cushion	VEC1432

RDAB Assembly

SEMICONDUCTORS

Mark	No. Description	Parts No.
	IC601	AD1862N-P

CAPACITORS

Mark	No. Description	Parts No.
	C601,C602 (47μ/63V)	VCH1072
	C603	CFTXA105J50
	C604	CEYA100M50

RESISTORS

Mark	No. Description	Parts No.
	VR601 Semi-fixed(100kΩ)	VRTB6HS104
	R601,R602	RD1/6PM474J

LDAB Assembly

SEMICONDUCTORS

Mark	No. Description	Parts No.
	IC501	AD1862N

CAPACITORS

Mark	No. Description	Parts No.
	C501,C502 (47μ/63V)	VCH1072
	C503	CFTXA105J50
	C504	CEYA100M50

RESISTORS

Mark	No. Description	Parts No.
	VR501 Semi-fixed(100kΩ)	VRTB6HS104
	R501,R502	RD1/6PM474J

●SYLF Assembly (VWM1170)

SYLF assembly is composed of SPRT, SYPS, PLFB and TRSB assemblies.

SYPS Assembly

SEMICONDUCTORS

Mark	No. Description	Parts No.
	IC1	NJM4558S
	IC2	TA8413P
	IC3	ICP-N20
	Q302	STA302A
	Q303	STA303A
	Q20,Q26	UN4112
	Q5,Q6,Q9,Q21,Q22	UN4212
	Q23 – Q25	2SA817
	Q1,Q10,Q14	2SA933S
	Q18	2SB1185
	Q16	2SB1185-F8
	Q15	2SB1375
	Q2,Q7,Q11,Q13	2SC1740S
	Q8	2SC1847
	Q3	2SC1627
	Q4	2SD1267
	Q17,Q19	2SD1762
	Q12	2SD2012
	D19	D3SBA20
	D13	HZS5.1NB1
	D7	HZS5.1NB2
	D23	HZS5.6NB2
	D16	MTZJ20A
	D17	MTZJ27C
	D18	RBA-406B
	D1	S2K20
	D25 – D27	S3V10-4002P7.5
	D2,D8,D14,D15,D20,D21,D24	1SR139-100
	D3 – D6,D9 – D12,D22	1SS254

COIL

Mark	No. Description	Parts No.
	L1	VTT1016

CAPACITORS

Mark	No. Description	Parts No.
	C7,C13,C14,C32	CEAS100M50
	C18,C19	CEAS101M50
	C27,C28	CEAS222M25
	C29	CEAS102M16
	C6	CEAS3R3M50
	C38	CEAS4R7M50
	C11,C12,C15,C16,C31	CEAS470M16
	C17,C20,C34	CEAS470M25
	C5	CEAS470M50
	C10,C30,C33	CEAS471M25
	C26	CEAS472M16
	C4	CKPUYB471K50
	C3	CKPUYB681K50
	C21 – C24,C39	CKPUYF103Z25
	C2	CQMA183J50
	C9	CQMA472J50
	C1	CQMA332J50
	C43 – C45	CQMA333J50
	C25 ELECTR.(10000μ/16V)	VCH1055
	C35-C37,C40-C42 ELECTR. (22μ/50V)	VCH1091

RESISTORS

Mark	No. Description	Parts No.
	R46 – R51	RD1/2PM471J
	R14 – R17	RN1/6PQ□□□□F
	R12,R13,R22,R38	RS1LMF□□□J
	Other resistors	RD1/6PM□□□J

PLFB Assembly (VWR1097)

COIL

Mark	No. Description	Parts No.
⚠	L101	VTL-157

CAPACITORS

Mark	No. Description	Parts No.
⚠	C101,C102 (0.01μ)	RCG-009

SPRT Assembly

There is not supply parts in this assembly

TRSB Assembly

There is not supply parts in this assembly

FLKB Assembly

FLKB assembly is composed of FLMB, OPEB, IRKB and KEYB assemblies.

FLMB Assembly

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC1		PST529C
	IC2		PDG048A
	Q1		2SC1740S
	D1,D2		1SS254

CAPACITORS

Mark	No.	Description	Parts No.
	C2		CKPUYY103N16
	C3		CKPUYB102K50
	C103		CEJA470M6R3

RESISTORS

Mark	No.	Description	Parts No.
		All resistors	RD1/6PM□□□J

OTHERS

Mark	No.	Description	Parts No.
	V1	Fluorescent indicator tube	VAW1016
	X1	Ceramic resonator	VSS1014

IRKB Assembly

SWITCH

Mark	No.	Description	Parts No.
	S1	Tact switch (POWER STANDBY/ON)	RSG1030

COIL

Mark	No.	Description	Parts No.
	L1		VTH1026

CAPACITORS

Mark	No.	Description	Parts No.
	C1		CKPUYY103N16
	C101		CEJA470M6R3
	C102		CEJA100M35

OTHERS

Mark	No.	Description	Parts No.
		IR sensor unit	GP1U50X

KEYB Assembly

SWITCHES

Mark	No.	Description	Parts No.
	S2-S12	Tact switch (+10, 1 – 10)	RSG1030

OPEB Assembly

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	Q2		UN4212
	D3 – D13		1SS254
	D101		SLH-56YC3H

SWITCHES

Mark	No.	Description	Parts No.
	S13-S26	Tact switch (PGM, AUTO PGM EDIT, VIDEO NR, RANDOM PLAY, SCAN (◀◀, ▶▶), SKIP (⏮, ⏭), DISPLAY OFF, PLAY/STILL (▶/▶◀), STOP (■), OPEN, CLOSE (▲), B, A DISC SIDE)	RSG1030

RESISTORS

Mark	No.	Description	Parts No.
		All resistors	RD1/6PM□□□J

YCSB Assembly

COILS AND FILTERS

Mark	No.	Description	Parts No.
	IC2,IC3		MC1496P
	IC1		TA7302P
	Q100		DTA124ES
	Q17		2SC1674
	Q1,Q6,Q16,Q18		2SA933S
	Q2 – Q5,Q7 – Q15,Q19		2SC1740S
	D1		1SS254

CAPACITORS

Mark	No.	Description	Parts No.
	L1,L3		LAU470J
	L2		LAU220J
	L4		LAU150J
	L5		LAU100J
	L6		LAU150J
	L100		LAU470J
	F1,F2		VTF1032

CAPACITORS

Mark	No. Description	Parts No.
	C42	CCCCH121J50
	C34	CCCCH430J50
	C33	CCCCH150J50
	C37	CCCSL181J50
	C100	CCDCH121J50
	C32	CCDSL181J50
	C31,C39	CCPUCH150J50
	C35	CCPUSL270J50
	C38,C40,C41	CCPUSL470J50
	C36	CCPUSL680J50
	C3 – C7	CEAS101M10
	C51,C52	CEAS221M10
	C2	CEAS220M16
	C8,C9,C12,C13,C15-C29	CKPUYY103N16

RESISTORS

Mark	No. Description	Parts No.
	VR1 Semi-fixed(2.2kΩ)	VRTB6VS222
	R10,R14,R22,R23,R32,R33,R27, R28,R71	RN1/6PQ□□□□F
	Other resistors	RD1/6PM□□□J

◉AUDB Assembly (VWV1201)

SEMICONDUCTORS

Mark	No. Description	Parts No.
	IC3,IC4	BU4053B
	IC12	M5F7806L
	IC10	M5F7812L
	IC13	M5F7906L
	IC11	M5F7912L
	IC5,IC6	NJM5532SD
	IC9	PA0034A
	Q1	UN4112
	Q2	2SA933S
	Q3 – Q6	2SD2144S
	Q7	2SC2786
	Q8	2SC1740S
	D3 – D6	31DF2-FE

COILS AND FILTERS

Mark	No. Description	Parts No.
	L2	LAU270J
	L1,L3	LAU560J
	F1 BPF (2.30, 2.81MHz)	RTF1084

CAPACITORS

Mark	No. Description	Parts No.
	C41,C59	CCCCH560J50
	C29,C31	CCCCH910J50
	C30	CCCSL221J50
	C57	CCCSL271J50
	C39	CCCSL301J50
	C45,C63	CEANP220M10
	C47	CEANP330M16
	C66	CEASR47M50
	C32,C50	CEAS100M50
	C38,C56	CEAS101M10
	C42,C51,C60,C67	CEAS220M50
	C34,C37,C48,C52,C55	CEAS221M6R3
	C80 – C83	CENA470M50
	C65	CEAS4R7M50
	C12,C26	CEYANP220M25
	C49	CFTXA104J50
	C79	CFTXA123J50
	C33	CKCYF103Z50
	C68,C69	CKPUYF103Z25
	C35,C36,C53,C54	CKCYF223Z50
	C46,C64	CQMA393J50
	C43,C44,C61,C62	CQMA472J50
	C40,C58	CQMA682J50
	C3,C17 (220p)	VCE1014
	C8,C22 (470p)	VCE1017
	C6,C20 (22000p)	VCE1018
	C7,C21 (1000p)	VCE1019
	C72-C75 ELECT.(330μ/25V)	VCH1056
	C11,C25 ELECT.(22μ/100V)	VCH1057
	C4,C5,C18,C19 ELECT(100μ/25V)	VCH1058
	C70,C71 ELECT.(2200μ/25V)	VCH1066
	C1,C2,C15,C16 ELECT.(47μ/100V)	VCH1085

RESISTORS

Mark	No. Description	Parts No.
	R11,R27 Audio resistor(330/5W)	VCN1006
	R15,R31,R77,R78	RDR1/2PM□□□J
	R3 – R7,R9,R10,R13,R16, R19 – R23,R25,R26,R29,R32	RDR1/4PM□□□J
	Other resistors	RD1/6PM□□□J

OTHER

Mark	No. Description	Parts No.
	JA1 4P pin jack	VKB1015

LHSB Assembly

SWITCH

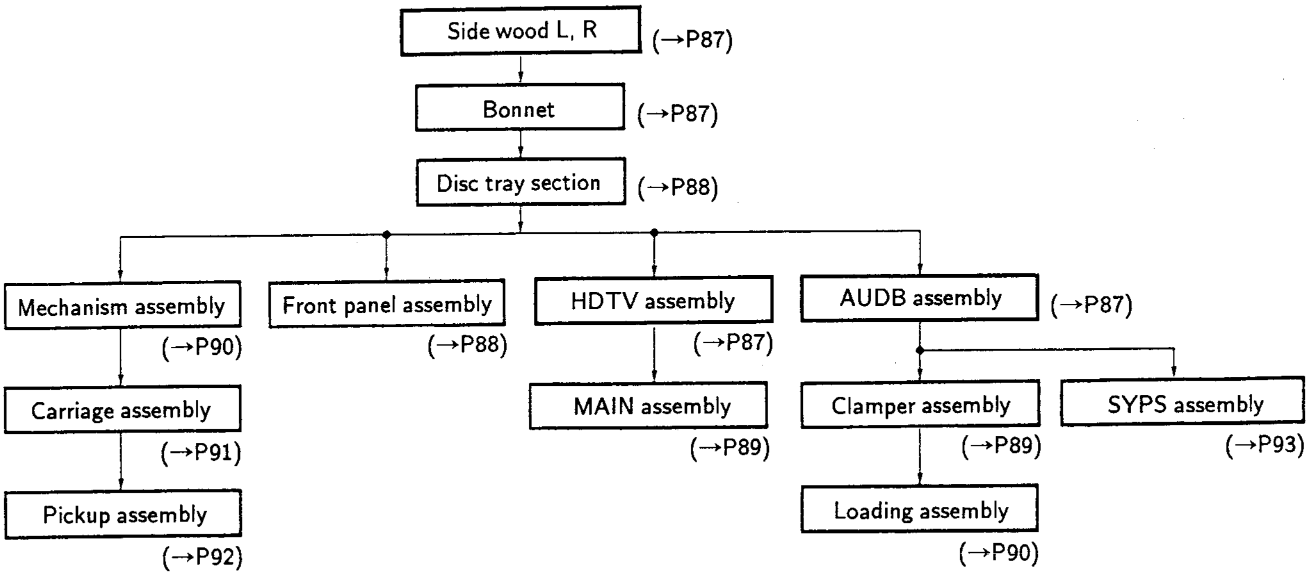
Mark	No. Description	Parts No.
	Leaf switch (Position detect switch of H. direction)	VSK1011

LVSB Assembly

SWITCH

Mark	No. Description	Parts No.
	Push switch (Position detect switch of V. direction)	DSG1015

7. DISASSEMBLY

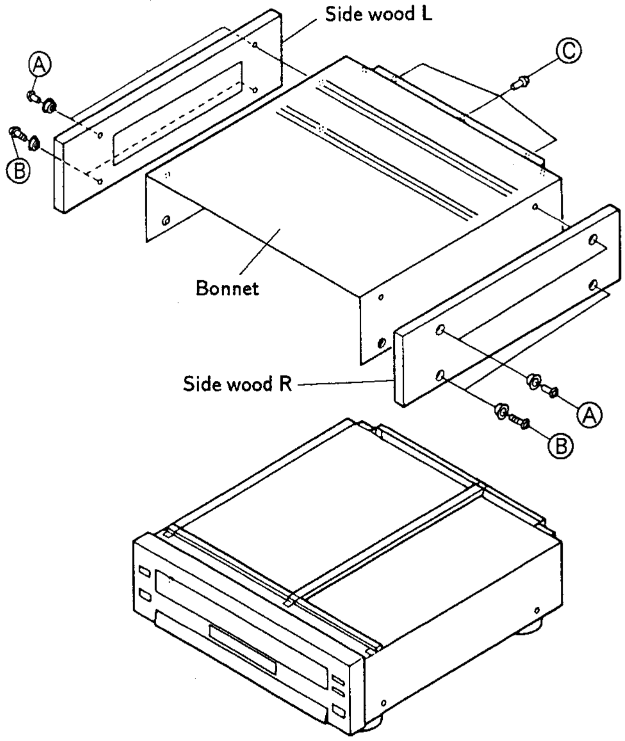

Side wood L, R (→P87)
Bonnet (→P87)
Disc tray section (→P88)
Mechanism assembly (→P90)
Front panel assembly (→P88)
HDTV assembly (→P87)
AUDB assembly (→P87)
Carriage assembly (→P91)
MAIN assembly (→P89)
Clamper assembly (→P89)
SYPS assembly (→P93)
Pickup assembly (→P92)
Loading assembly (→P90)

1. Bonnet and Side wood L, R

① Remove two set screws Ⓐ Ⓑ from both the left and right side wood panels.

② Remove the three set screws Ⓒ at the rear of the player.

Note : There are two types of side wood panel set screws.

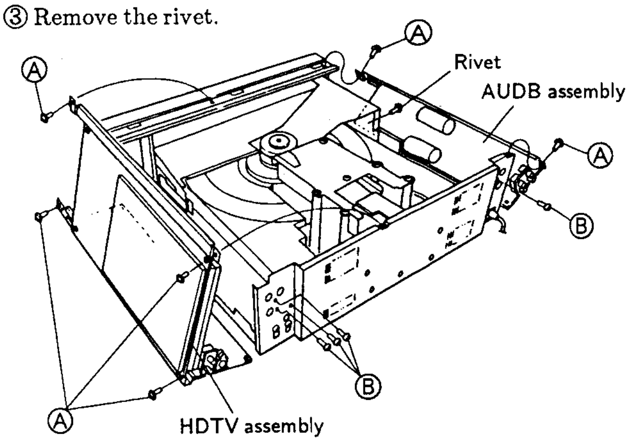

Side wood L
Ⓒ
Ⓐ
Ⓑ
Bonnet
Side wood R
Ⓐ
Ⓑ

2. HDTV and AUDB assemblies

① Remove the six set screws Ⓐ from the reinforcement bridge.

② From the rear of the player, remove the audio output terminal's four set screws Ⓑ .

③ Remove the rivet.


Ⓐ
Ⓐ
Rivet
AUDB assembly
Ⓐ
Ⓑ
Ⓑ
Ⓐ
HDTV assembly

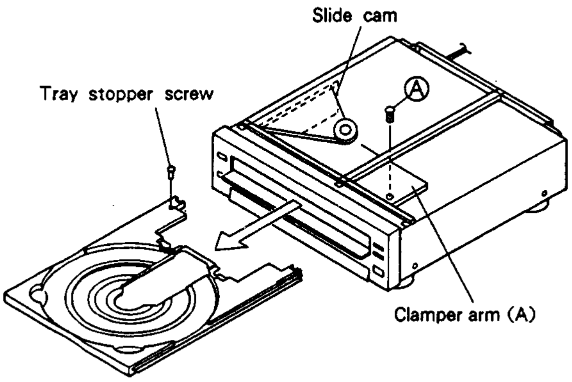
3. Disc tray

Note : The bonnet should be removed first.

① Push the slide cam with your hand toward the front until it stops. (Have the unit's front door open.)

② Remove the tray stopper screw and the screw Ⓐ located on the right front side of the clamper arm (A).

③ Pull the tray straight out.


Slide cam
Tray stopper screw
Ⓐ
Clamper arm (A)

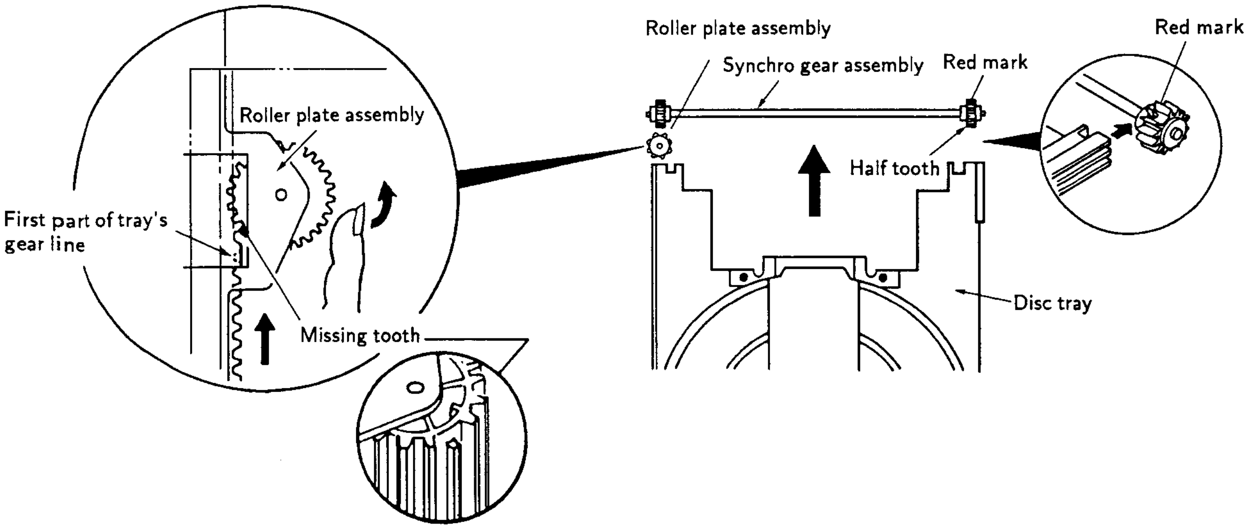
— How to install the disc tray —

① Set the player with the tray open.

② Align the synchro gear assembly with the disc tray so that missing gear cog (indicated by a red mark) of the gear is one tooth under the vertical position as shown below.

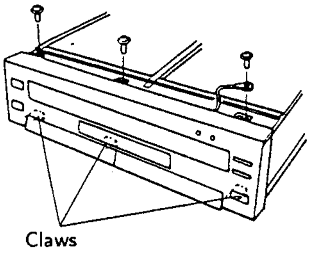
③ Set the roller plate gear so that the roller plate line intersects with the mid-point of missing tooth of the roller plate gear.

④ To insert the disc tray, make sure the first part of the tray's gear line is aligned with the roller plate assembly's missing gear tooth. Otherwise, the disc tray cannot be inserted. See the figure.


Roller plate assembly
First part of tray's gear line
Missing tooth
Roller plate assembly
Synchro gear assembly
Red mark
Red mark
Half tooth
Disc tray

4. Front Panel

① Remove the three screws from the top of the front panel and lift the three claws.



5. Clamper arm (B) and (A) assemblies

① Remove the two clamp springs.

② Unscrew the clamper locking screw, and remove the clamper.

③ Remove the AUDB assembly.(→P87)

④ While pulling the notch located at the right side of the clamp holder toward you, detach the clamp holder from the parallel link.

⑤ Raise the clamper arm (B) assembly in the direction of the arrow.

⑥ Remove the HDTV assembly.(→P87)

⑦ Remove the carriage assembly.(→P91)

⑧ Remove the washerⒶ, washerⒷand nylon washer from the right side of the clamper arm (A) assembly, and the locking screw and the arm spring from the left side.

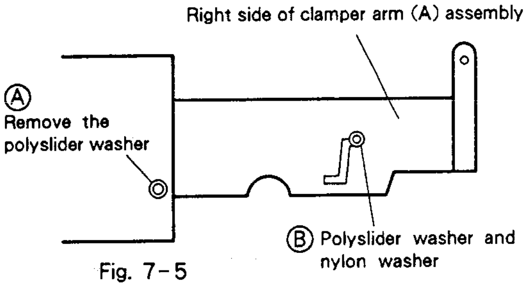
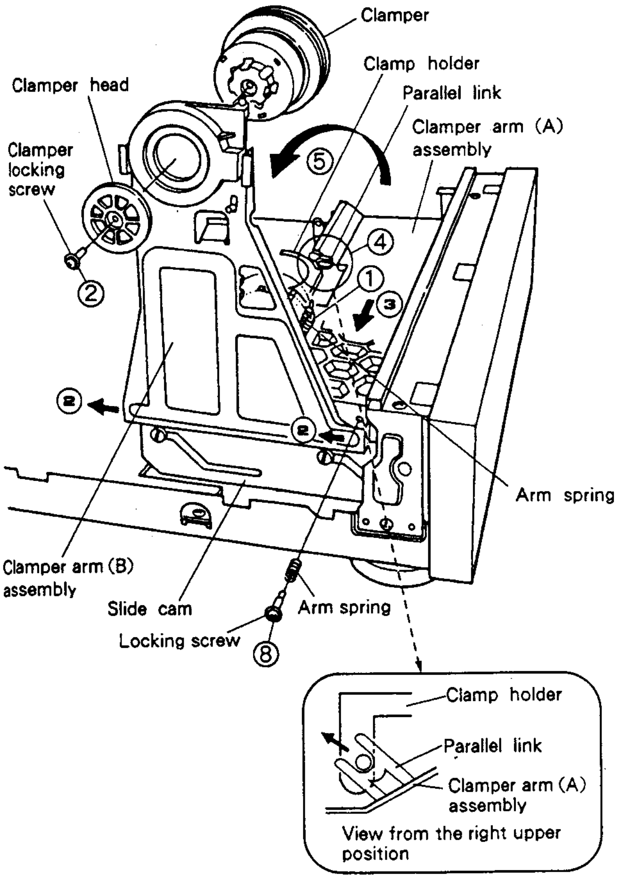

Right side of clamper arm (A) assembly
Ⓐ Remove the polyslider washer
Ⓑ Polyslider washer and nylon washer

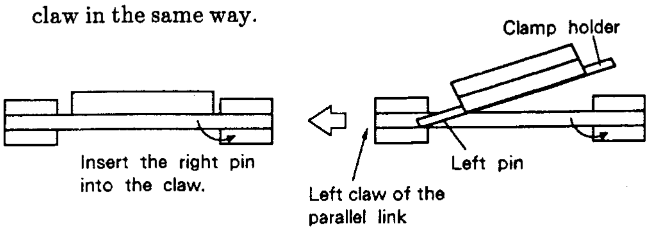
Fig. 7-5


Clamper
Clamp holder
Parallel link
Clamper arm (A) assembly
Clamper head
Clamper locking screw
⑤
④
①
③
②
Arm spring
Clamper arm (B) assembly
Slide cam
Arm spring
Locking screw
⑧
Clamp holder
Parallel link
Clamper arm (A) assembly
View from the right upper position

Clamper section mounting

① Insert the left pin of the clamp holder into the left claw of the parallel link.

② Insert the right pin of the clamp holder into the right claw in the same way.


Clamp holder
Insert the right pin into the claw.
Left claw of the parallel link
Left pin

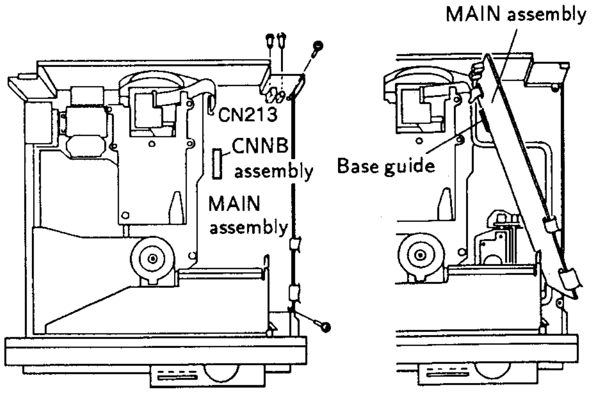
6. MAIN assembly

① Remove the four MAIN assembly set screws.

② Disconnect the flexible cable (CN213) connecting the PREB assembly and the MAIN assembly.

③ Remove the CNNB assembly.

④ Disconnect all the connectors from the MAIN assembly.


MAIN assembly
CN213
CNNB assembly
MAIN assembly
Base guide

MAIN assembly removal

MAIN assembly diagnosis

Diagnosis of the MAIN assembly

- The bonnet and the HDTV assembly are to be removed.

① Slide and lift the board toward the right.

② Reconnect the connectors.

③ Assemble the board into the base guide and stand the board.

7. Mechanism assembly

Note : The bonnet should be removed first.

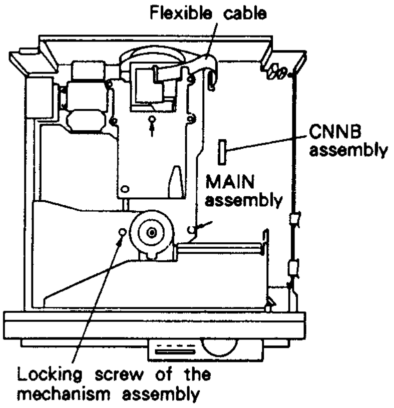
① Remove the upper side of the HDTV assembly.(→P87)

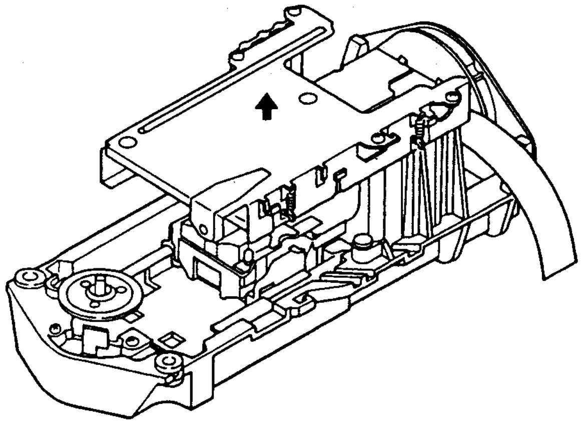
② Remove the disk tray.(→P88)

③ Remove the CN108 from the SYPS assembly, and also remove the CNNB assembly and the flexible cable from the MAIN assembly.

④ Remove the three locking screws from the mechanism assembly. Pull out the mechanism assembly by lifting its rear side.

Note : Completely remove the two front locking screws from the mechanism assembly.


Flexible cable
CNNB assembly
MAIN assembly
Locking screw of the mechanism assembly



8. Loading assembly

(Remove the loading assembly only when the motor is replaced. Gears can be removed from the top.)

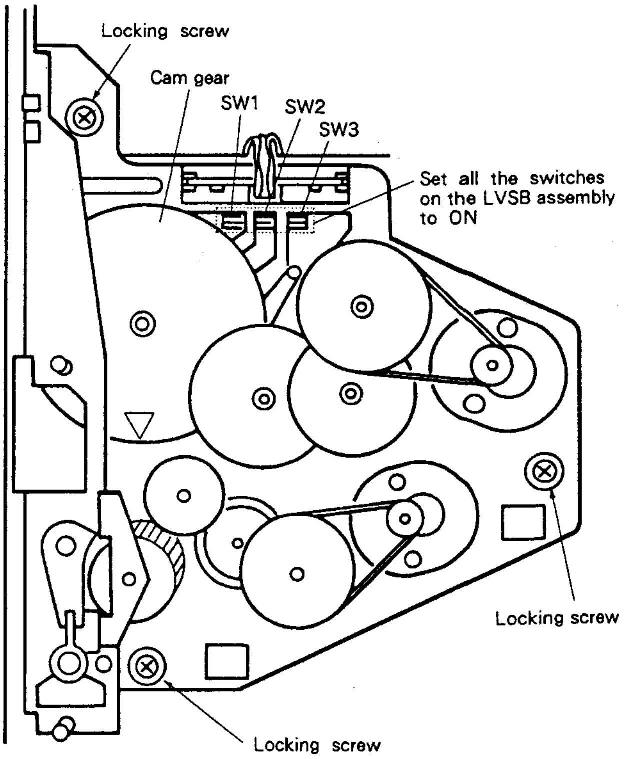
— How to install the cam gear —

Set all the switches on the LVSB assembly to ON and install the cam gear with the ▽ mark pointing to the front.

	SW1 V POS 0	SW2 V POS 1	SW3 V POS 2
Side A playback position	0	0	0
Side B clamp position	0	0	1
Door open position	1	0	1
Side B→Side A	1	1	0
Carry up	1	1	1

1 = ON 0 = OFF

Table :Switch position and the status of the unit
(SW1 to 3 are named in this manual for convenience.)


Locking screw
Cam gear
SW1
SW2
SW3
Set all the switches on the LVSB assembly to ON
Locking screw
Locking screw

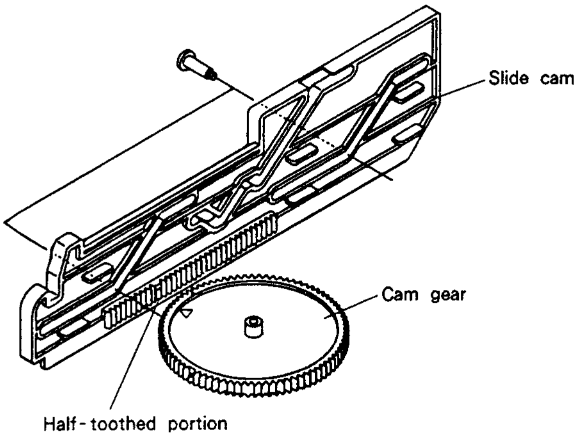
How to install the cam gear

— How to install the slide cam —

① Align the ▽ mark of the cam gear and the half-toothed gear of the slide cam.

② Fix the slide cam with the locking screw.

③ Fully pull out the slide cam in the front direction and fix the roller plate (L) to the slide cam with two screws.



Alignment of the cam gear and the slide cam

9. Carriage assembly

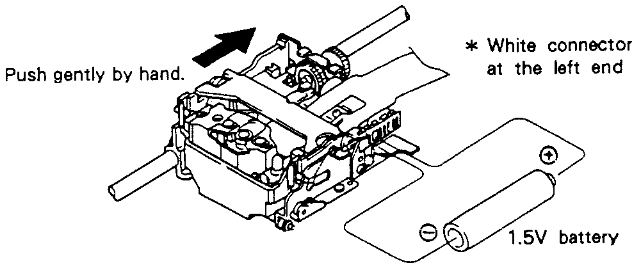
Note 1 : In this section, the R plate, G plate and the internal gear assemblies are together called the "turn plate"

Note 2 : The mechanism assembly should be removed first.

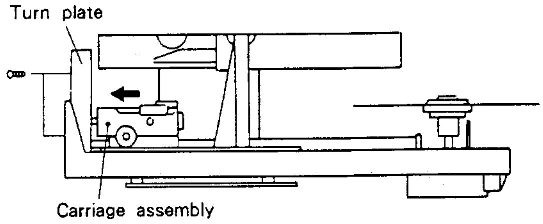
① Move the carriage assembly toward the shaft of the turn plate.

— How to move the carriage assembly —

Move the carriage assembly by pushing its end near the slider shaft gently by hand, or by connecting a 1.5V battery to the slider motor connector.



Move the carriage assembly



Carriage assembly turn position

② Disconnect the flexible cable which connects the PREB and MAIN assemblies from the CN901 of the PREB assembly.

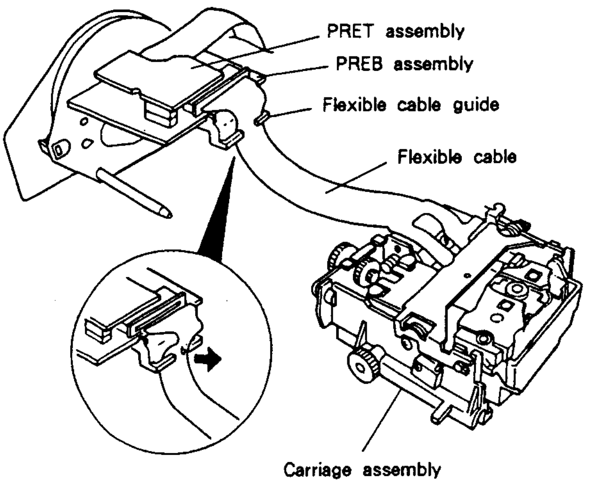
③ Disconnect the flexible cable which connects the pickup assembly and the PREB assembly from the CN902 of PREB assembly.

④ Remove the three screws from behind the turn plate assembly.

⑤ Remove the carriage assembly together with the turn plate from the mechanism assembly.

⑥ Remove the carriage assembly from the turn plate.

⑦ Disengage the flexible cable from the flexible cable guide on the back of the PREB assembly. Take care not to expose the unit to static electricity.


PRET assembly
PREB assembly
Flexible cable guide
Flexible cable
Carriage assembly

10. Pickup assembly

Note : The carriage assembly should be removed first.

① Check that the AF plate assembly is in the middle or bottom position of the shaft of the AF gear assembly. If not, connect the battery to the AF motor connectors to make the shaft of the AF gear assembly rotate until the AF plate assembly comes to the middle or bottom of the shaft.

② Remove the height springs on both sides on the height side.

③ Remove the AF stopper locking screw.

④ Remove the E-ring for holding pins from the pickup holder assembly.

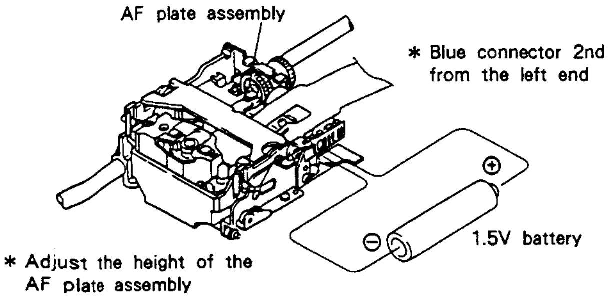
⑤ Remove the E-ring from the AF plate assembly.

⑥ While slightly lifting the AF arm on the AF gear assembly side, slide the AF arm and remove it.

⑦ Remove the two pickup connector locking screws.

⑧ Remove all four connectors from the connector board on the flexible cable.

⑨ Remove the pickup locking screw.


AF plate assembly
* Blue connector 2nd from the left end
⊕
⊖
1.5V battery
* Adjust the height of the AF plate assembly

11. Tilt motor

Note : The carriage assembly should be removed first.

① Disconnect the tilt motor connector.

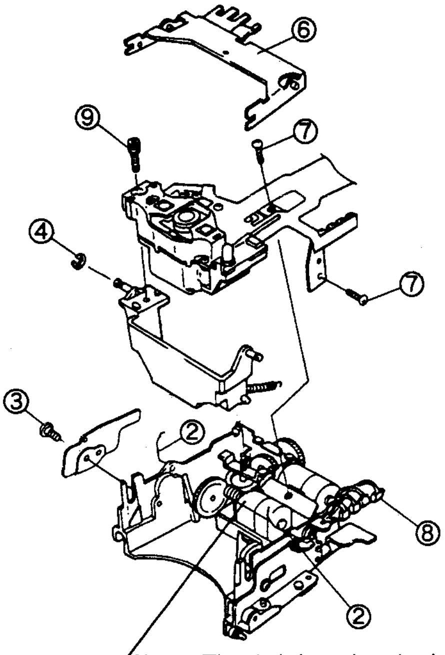
② Remove the screw fixing the tilt motor assembly-S and the carriage assembly from the bottom of the carriage assembly.

12. Height motor

Note : The pickup and tilt motor assemblies should be removed first.

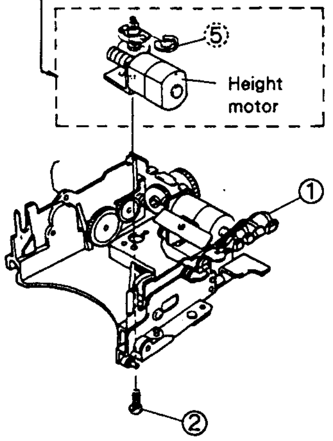
① Disconnect the height motor connector.

② Remove one screw which attaches the height motor assembly and the carriage assembly.

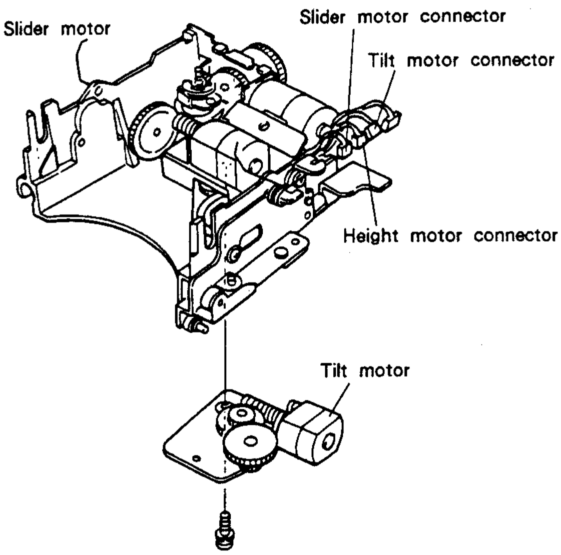


Note : The circled numbers in the figures correspond to those of the removing procedures.

10. How to remove the pickup assembly.


⑤
Height motor
①
②

12. How to remove the height motor


Slider motor
Slider motor connector
Tilt motor connector
Height motor connector
Tilt motor

11. How to Remove the tilt motor
13. How to remove the slider motor

13. Slider motor

Note : The pickup assembly, AF motor assembly and the tilt motor assembly should be removed first.

① Disconnect the slider motor connector.

② Remove the harness wrapped around the slider base.

③ Remove the two screws fixing the slider motor.

14. SYPS assembly

① Remove the three heat sink screws and the board screw.

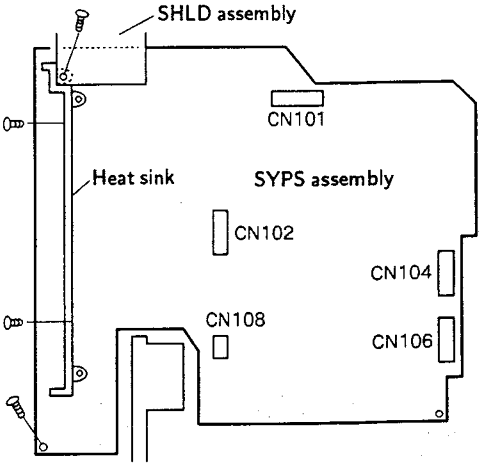
② Remove the SHLD assembly.

③ Unhook the board hook from the underside of the bottom panel.

④ Remove the SYPS assembly's CN102 and CN108 connectors.

⑤ Remove the SYPS assembly by lifting and sliding it from the left side.

Note : In step ⑤, turn over the board and connect the connector. You can then check it from the SYPS assembly's pattern side.


SHLD assembly
CN101
Heat sink
SYPS assembly
CN102
CN104
CN108
CN106

8.ADJUSTMENTS

8.1 TEST MODE

8.1.1 Initiation

① Remove the bonnet and disc tray.

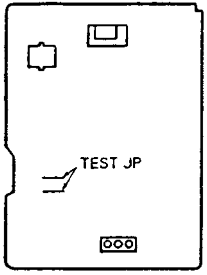
② Short circuit the SPRT assembly's TEST JP. See the figure below.

③ Turn on the POWER switch.

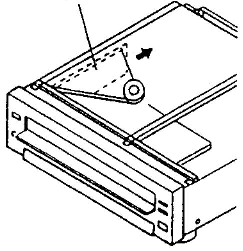
④ Check if the test mode display is on the TV screen.

⑤ Disconnect the TEST JP.

SPRT assembly



Slide cam



Note : If the repair is to be done while the MAIN assembly is standing upward, the parallel jumper wire between the MAIN assembly and SPRT assembly may be disconnected.

— Disc playback procedure —

① Set a disc on the tray.

② Press the PLAY key and push the slide cam toward the rear.

③ The disc clamper will go down automatically and playback will begin.

8.1.2 Cancellation

CX + 9 or POWER off

Note :

- In the test mode, the clamper and EJECT operations will not function for safety reasons. However, if there is no disc, EJECT will be possible.
- When the playback switches from side B to side A, be aware that the clamper will go up.
- In the test mode, the initial search can also be cancelled by the CLEAR key.
- If a laser disc is in the player while in the test mode, it will take about 20 seconds after the POWER key is turned off until the power is actually cut off. (Forced POWER off)
- In the test mode, picture remain search and picture remain side change will not function. The search side will change with a blue-back screen.
- In the test mode, side B will not be played even after the end of side A playback. Side B can be played by pressing the SIDE B key.

8.1.3 Function

In the test mode, pressing CX and a numeric key will execute the respective functions below.

CX + 0 : All the FL (except for DISPLAY OFF LED) LEDs will light and the ROM version will be displayed on the TV screen (toggle).
(Since the FL's AC is turned ON/OFF by the DISPLAY OFF LED's drive output, the FL and DISPLAY OFF LED cannot be lit simultaneously.)

CX + 1 : After the error rate measuring LD or CD is measured for 15 seconds, the measurement (complementary value and C1 and C2 errors) will be displayed on the screen. During the measurement, the keys will not function.

CX + 2 : Tracking OPEN/CLOSE (toggle).

CX + 3 : CX ON/OFF (toggle)

CX + 4 : Forced tilt OFF.

CX + 5 : Tilt normal.

CX + 6 : 3.0 MHz oscillation of PD0011(toggle). Output from PORT3.

CX + 7 : Not used.

CX + 8 : Clearance of external RAM. (It will not be cleared immediately. It will be cleared the next time the power is turned on.) If the ROM is replaced, be sure to execute this function.

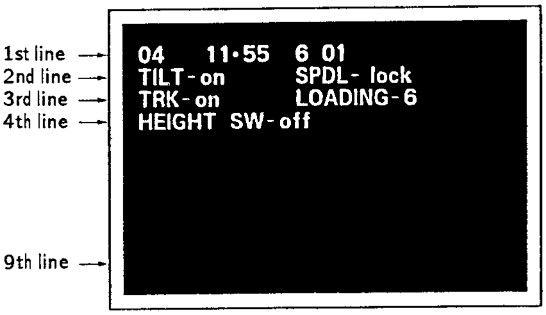
CX + 9 : Cancellation of test mode.

Other test mode functions

- Open startup
  If playback is executed after entering the test mode from the stop mode, startup will occur while tracking and tilt are off.
- Manual operation of slider and height
  While in the stop mode, the slider can be moved manually and the height can be adjusted up or down manually.
  Fast forward key : Moves the slider outward.
  Fast reverse : Moves the slider inward.
  (The CLD-95's remote control unit does not have fast forward and fast reverse functions. Therefore use the player's remote control unit.)
  Shuttle Fwd : Height UP
  Shuttle Rev : Height DOWN
- Side B startup
  When the test mode is set while in the trayout condition and the SIDE B key is pressed, startup can proceed from side B without any disc sensing of side A.
- Focus check
  When the PLAY key is pressed without any disc sensing, LD setup will be executed. The LD setup will have a maximum 9 seconds of focus lock. This can be used to check the focus system when there is a problem such as no disc sensing even when there is a disc.

8.1.4 Display

In the test mode, the TV monitor will display the status of the switches.



```
04    11·55  6 01
TILT-on      SPDL- lock
TRK-on       LOADING-6
HEIGHT  SW-off
```

TV monitor

[1st line]

04 11 : 55 6 01

(Chapter Frame/Time)

(IMODE : General modes such as SETUP, PLAY, and SEARCH.)

0 : PARK

2 : OPEN

4 : SETUP

6 : PLAY

8 : SERACH

(SMODE : Specific sub modes in IMODE.)

[2nd line]

TILT-on SPDL-lock

(off) (unlock)

[3rd line]

TRK-on LOADING-6 (0-7)

(off)

[4th line]

HEIGHT SW-off

(on)

[9th line]

The 9th line will display one of two different items :

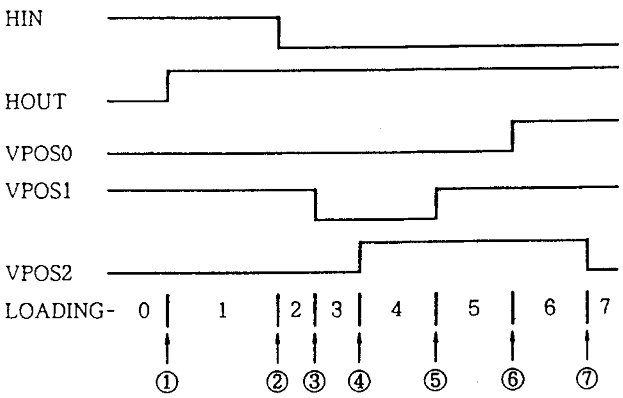
a. Error rate

000 0384

b. ROM version (PDK012A 91 ______)

※In the 2nd line, SPDL-lock/unlock will monitor and display SPDL LOCK. Therefore, during CD playback, unlock will be displayed.

※In the 3rd line, LOADING will indicate the loading position.



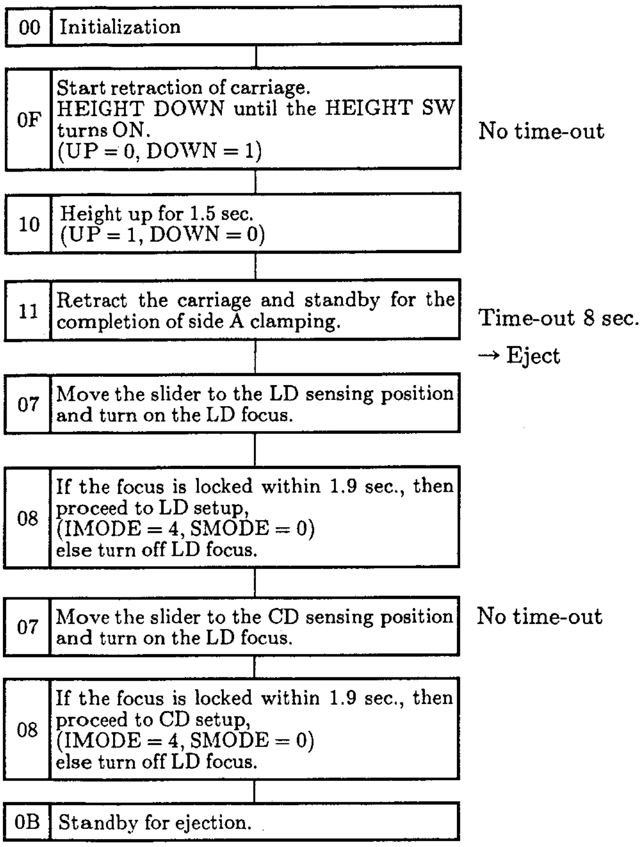
① Tray-out position
② Tray-in position
③ Door-open position
④ Tray-up position (Position during LD stop)
⑤ Turn over position from side B to side A
⑥ Side A clamp position
⑦ Side B clamp position

8.1.5 Microcomputer Software Description

(1) Loading

IMODE = 0

SMODE



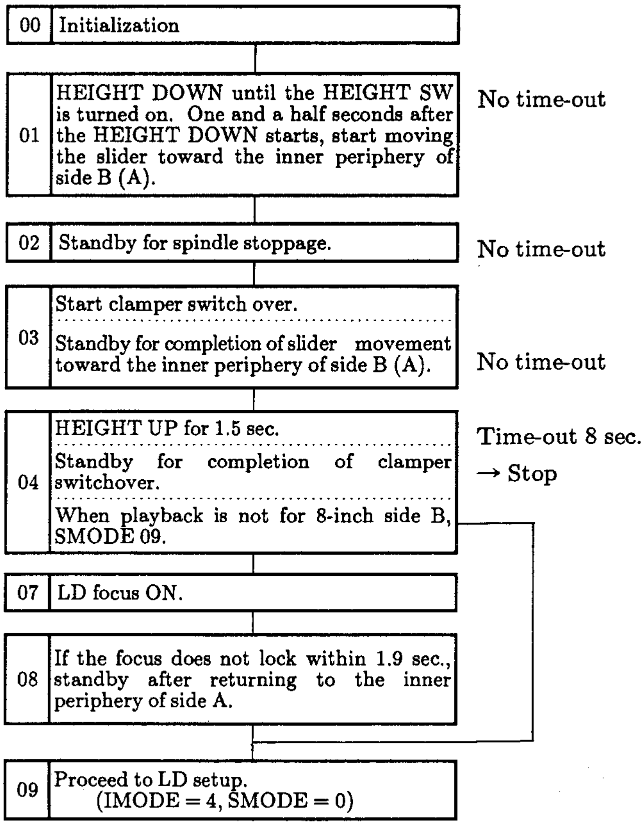
SMODE		
00	Initialization	
0F	Start retraction of carriage. HEIGHT DOWN until the HEIGHT SW turns ON. (UP = 0, DOWN = 1)	No time-out
10	Height up for 1.5 sec. (UP = 1, DOWN = 0)	
11	Retract the carriage and standby for the completion of side A clamping.	Time-out 8 sec. → Eject
07	Move the slider to the LD sensing position and turn on the LD focus.	
08	If the focus is locked within 1.9 sec., then proceed to LD setup, (IMODE = 4, SMODE = 0) else turn off LD focus.	
07	Move the slider to the CD sensing position and turn on the LD focus.	No time-out
08	If the focus is locked within 1.9 sec., then proceed to CD setup, (IMODE = 4, SMODE = 0) else turn off LD focus.	
0B	Standby for ejection.	

The HEIGHT UP/DOWN in SMODE 0F and 10 will be executed only after the power is turned on. Normally, after the carriage retraction starts in 0F, it will immediately standby for side A clamping in 11.

(2) Playback from side A to side B and from side B to side A

IMODE = 0

SMODE

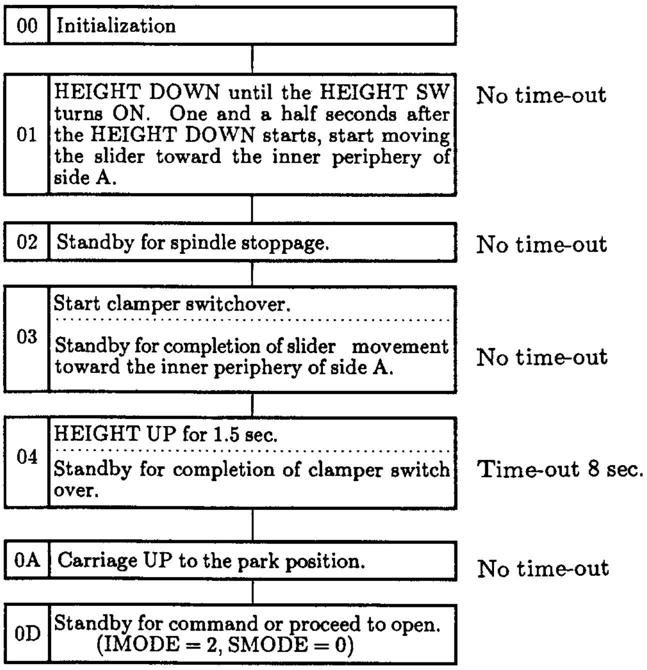


SMODE		
00	Initialization	
01	HEIGHT DOWN until the HEIGHT SW is turned on. One and a half seconds after the HEIGHT DOWN starts, start moving the slider toward the inner periphery of side B (A).	No time-out
02	Standby for spindle stoppage.	No time-out
03	Start clamper switch over. Standby for completion of slider movement toward the inner periphery of side B (A).	No time-out
04	HEIGHT UP for 1.5 sec. Standby for completion of clamper switchover. When playback is not for 8-inch side B, SMODE 09.	Time-out 8 sec. → Stop
07	LD focus ON.	
08	If the focus does not lock within 1.9 sec., standby after returning to the inner periphery of side A.	
09	Proceed to LD setup. (IMODE = 4, SMODE = 0)	

(3) Side B playback → Stop or Eject

IMODE = 0

SMODE

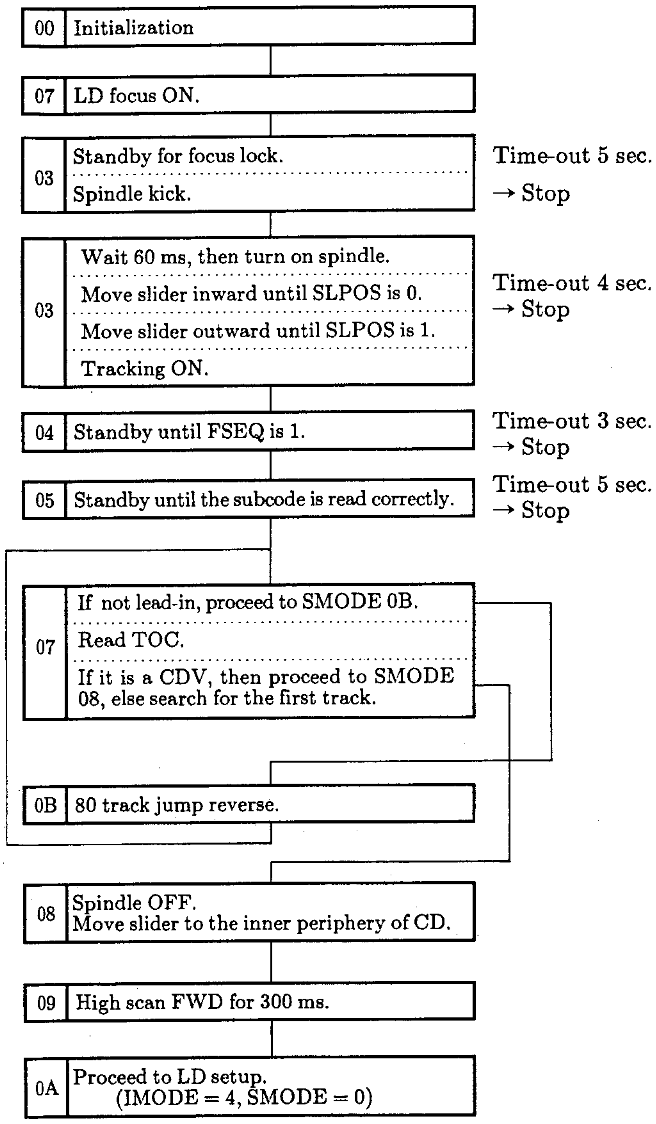


SMODE		
00	Initialization	
01	HEIGHT DOWN until the HEIGHT SW turns ON. One and a half seconds after the HEIGHT DOWN starts, start moving the slider toward the inner periphery of side A.	No time-out
02	Standby for spindle stoppage.	No time-out
03	Start clamper switchover. Standby for completion of slider movement toward the inner periphery of side A.	No time-out
04	HEIGHT UP for 1.5 sec. Standby for completion of clamper switch over.	Time-out 8 sec.
0A	Carriage UP to the park position.	No time-out
0D	Standby for command or proceed to open. (IMODE = 2, SMODE = 0)	

(4) CD setup

IMODE = 4

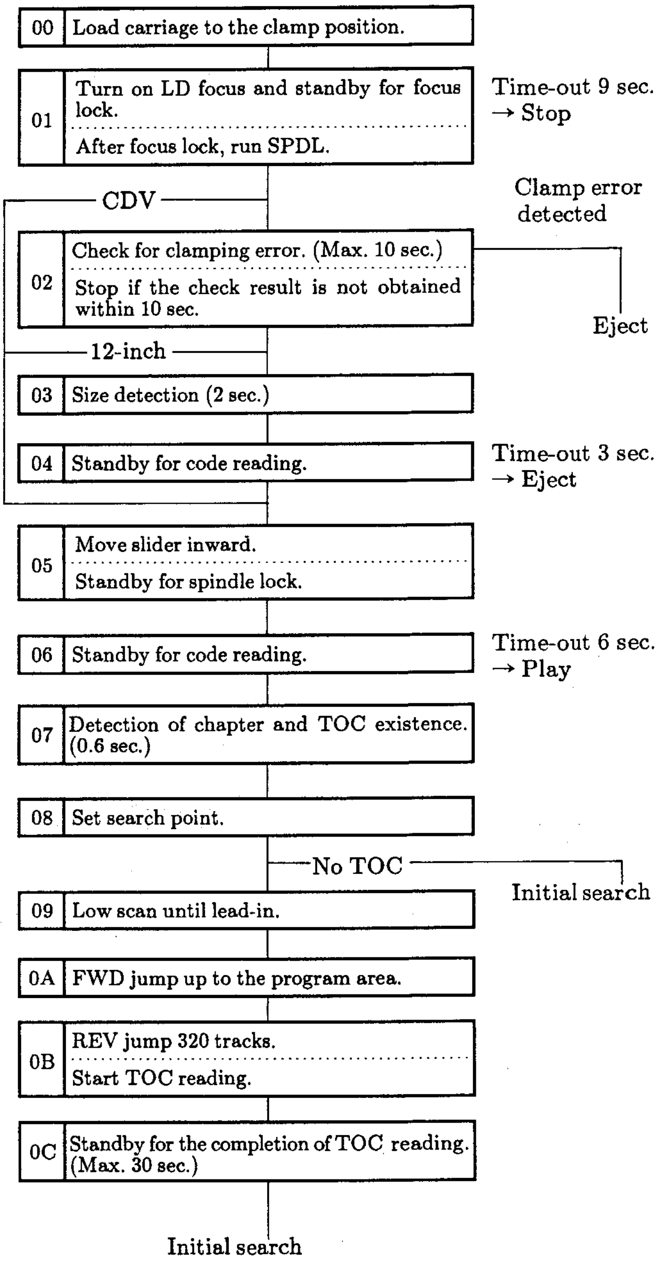
SMODE


00 Initialization
07 LD focus ON.
03 Standby for focus lock.
Spindle kick.
Time-out 5 sec. → Stop
03 Wait 60 ms, then turn on spindle.
Move slider inward until SLPOS is 0.
Move slider outward until SLPOS is 1.
Tracking ON.
Time-out 4 sec. → Stop
04 Standby until FSEQ is 1.
Time-out 3 sec. → Stop
05 Standby until the subcode is read correctly.
Time-out 5 sec. → Stop
07 If not lead-in, proceed to SMODE 0B.
Read TOC.
If it is a CDV, then proceed to SMODE 08, else search for the first track.
0B 80 track jump reverse.
08 Spindle OFF.
Move slider to the inner periphery of CD.
09 High scan FWD for 300 ms.
0A Proceed to LD setup.
(IMODE = 4, SMODE = 0)

(5) LD setup

IMODE = 4

SMODE


00 Load carriage to the clamp position.
01 Turn on LD focus and standby for focus lock.
After focus lock, run SPDL.
Time-out 9 sec. → Stop
CDV
Clamp error detected
02 Check for clamping error. (Max. 10 sec.)
Stop if the check result is not obtained within 10 sec.
Eject
12-inch
03 Size detection (2 sec.)
04 Standby for code reading.
Time-out 3 sec. → Eject
05 Move slider inward.
Standby for spindle lock.
06 Standby for code reading.
Time-out 6 sec. → Play
07 Detection of chapter and TOC existence. (0.6 sec.)
08 Set search point.
No TOC
Initial search
09 Low scan until lead-in.
0A FWD jump up to the program area.
0B REV jump 320 tracks.
Start TOC reading.
0C Standby for the completion of TOC reading. (Max. 30 sec.)
Initial search

8.2 JIGS AND INSTRUMENTS REQUIRED FOR ADJUSTMENT

- Small ⊖ screwdriver (with a shaft of more than 10cm)
- Small Phillips⊕screwdriver (at least 15cm long)
- Hexagonal wrenches (2.0mm and 2.5mm)
- L-shaped Phillips⊕screwdriver
- 1.5V battery with lead wires
- Resistor (47k ohms)
- Dual-trace oscilloscope(with delay)
- AF oscillator
- Frequency counter
- LD test disc (GGV1003 or 8-inch F2)
- LDD disc (buy locally)
- CD test disc (YEDS-7)
- Shorting clip
- L-shaped eccentric screwdriver (GGV-129)

8.3 PREPARATIONS FOR ADJUSTMENT AND PRECAUTIONS

1) When replacing the pickup assembly, adjust in the following way :

– Carriage assembly in forward state –

1. Coarse grating adjustment, tracking balance adjustment
2. Crosstalk adjustment
    1) Adjustment of inclination of the pickup in the tangential direction and tilt servo balance adjustment
    2) LD focus error balance adjustment
3. Spindle motor eccentricity check
4. Spindle motor eccentricity adjustment
5. Fine grating adjustment
6. RF gain adjustment
7. FOCS servo loop gain adjustment
8. TRKG servo loop gain adjustment

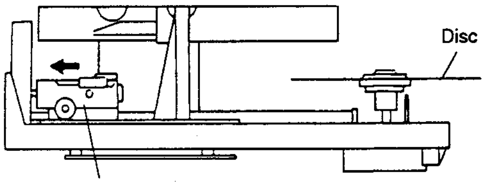
– Carriage assembly in reverse state –

9. Centering adjustment for side B play
10. Pickup tangential direction angle adjustment for side B play
11. Fine centering adjustment for side B play

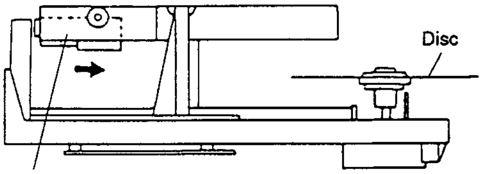
Note : The forward status of carriage assembly is when the carriage assembly is in the position to play side A of the disc. The reverse status is when it is in the position to play side B of the disc.

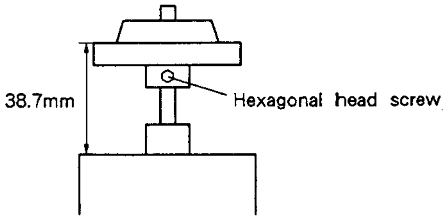
2) Adjust the height of the turntable when the spindle motor is replaced.

Carriage assembly forward state



Carriage assembly reverse state



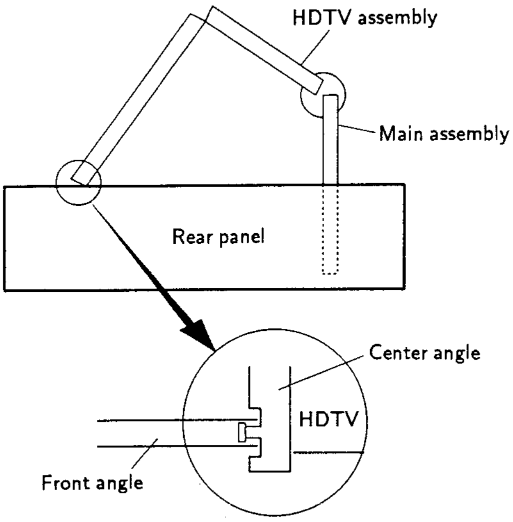


Loosen the hexagonal head screw and measure the height with a caliper.
Then retighten the screw.

Turntable height adjustment

3) Preparation for adjustment

Remove the bonnet and disc tray and stand the main assembly on the base guide. Then set the HDTV assembly on the front angle and rear panel.

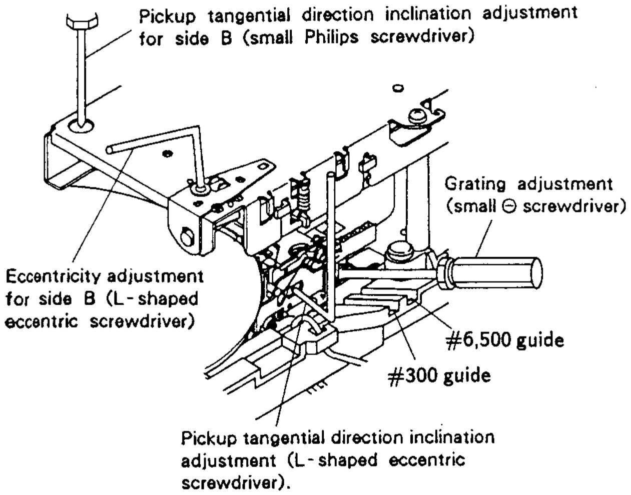

HDTV assembly
Main assembly
Rear panel
Center angle
HDTV
Front angle

4) Side B playback

Side B can be played by pressing the SIDE B key on the front panel.

5) Where to insert the screwdriver when adjusting the pickup assembly

– Carriage assembly in forward state –


Pickup tangential direction inclination adjustment for side B (small Philips screwdriver)
Grating adjustment (small ⊖ screwdriver)
Eccentricity adjustment for side B (L-shaped eccentric screwdriver)
#6,500 guide
#300 guide
Pickup tangential direction inclination adjustment (L-shaped eccentric screwdriver).

* The mechanical chassis' #6,500 and #300 guides on the bottom are for grating adjustment.

6) Test disc

The LD test disc used for mechanical adjustment and PREB assembly adjustment may either be the GGV1003 or 8-inch F2. The frame numbers given in the text are for the GGV1003 while those enclosed in parentheses are for the F2.
The LD test disc used for electrical adjustments can be either N series or F series. The frame numbers given in the text are for the N series while those enclosed in parentheses are for the F series.

7) Abbreviation in the text indicate the following

FOCS = Focus
TRKG = Tracking
SPDL = Spindle
SLDR = Slider
TAN = Tangential

8) After replacement of IC205 program PROM-S (PDK012A) on the MAIN assembly(CONT section)

After replacing IC205, press the $\boxed{\text{CX}}$ and $\boxed{8}$ keys on the remote control unit while in the test mode. This is to clear the external RAM. See "8.1 Test Mode."

9) The numbering in the connection diagram correspond to the numbering of the adjustment procedure.

10) All adjustments are to be made while the TILT servo is ON.

8.4 MECHANICAL ADJUSTMENT

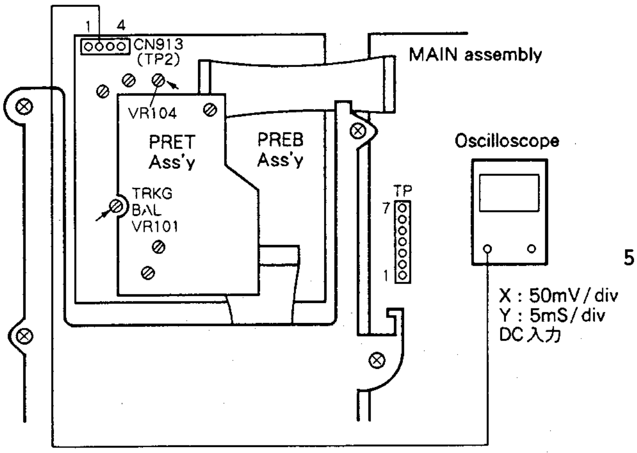
1. Coarse Grating and Tracking (TRKG) Balance Adjustment

Mechanical Adjustment

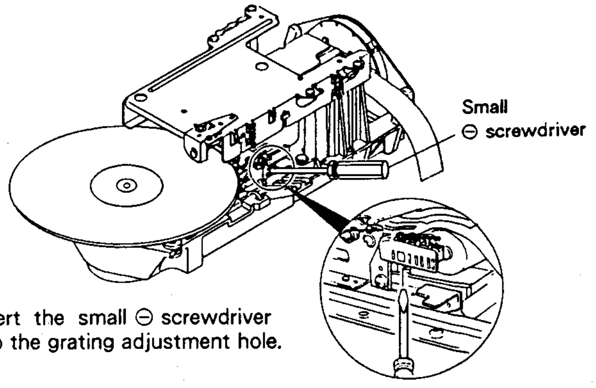
- Purpose : To adjust the laser beam which is divided into three by the grating to the optimum position on the track. Set the TRKG servo offset voltage to 0 V.
- When not properly adjusted : Disc playback will be impossible. During play, tracks may be skipped.

● Measuring instruments and jigs :	● Small ⊖ screwdriver (flat blade) ● Oscilloscope
● Measuring point :	● PREB assembly TP2-3(TRKG error)
● Test disc and player mode	● 8-inch LD test disc GGV1003···#6,500 (F2···#300) ● Still mode ● Test Mode (TRKG servo : Open) ● The carriage assembly should be in the forward state.
● Positions to be adjusted	● Grating ● PREB assembly VR101 (TRKG balance)

Connection diagram



4. Connect an oscilloscope to TP2-2 in the PREB assembly.



5. Insert the small ⊖ screwdriver into the grating adjustment hole.

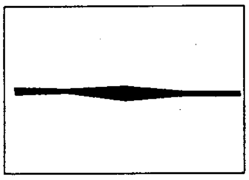


Fig-1 On-track position

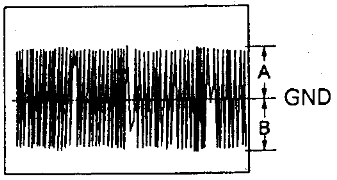


Fig-2 Maximum amplitude
A = B

Adjustment Procedure

< Coarse Grating Adjustment >

1. Play the LD test disc.
2. Move the pickup to frame #6,500 (#300) by scanning or searching.
3. Open the TRKG servo. (See page 94)
4. Connect an oscilloscope to TP2-2 in the PREB assembly and observe the waveform.
5. Insert the small ⊖ screwdriver into the grating adjustment hole. Turning the grating will allow you to vary the amplitude of the TRKG error waveform. Find the position where the waveform amplitude becomes minimum with a smooth envelope. (Fig-1) (This indicates that the 3-way split laser beams are directed onto the track. This is called the "on-track" position.)
6. Slowly turn the grating counterclockwise from the on track position until the waveform amplitude becomes maximum. (Fig-2)
7. Close the TRKG servo and check that a normal picture is displayed on the TV screen.

< TRKG Balance Adjustment >

1. Align the oscilloscope GND so that it comes to the center of the oscilloscope screen.
2. Adjust VR101 in the PREB assembly so that the positive and negative amplitude of the TRKG error waveform become equal. (Fig-2)

Note : If the tracking is so bad that it cannot be adjusted, set the PREB assembly's VR104 to the mechanical center. Then adjust the tracking.

2. Crosstalk Adjustment

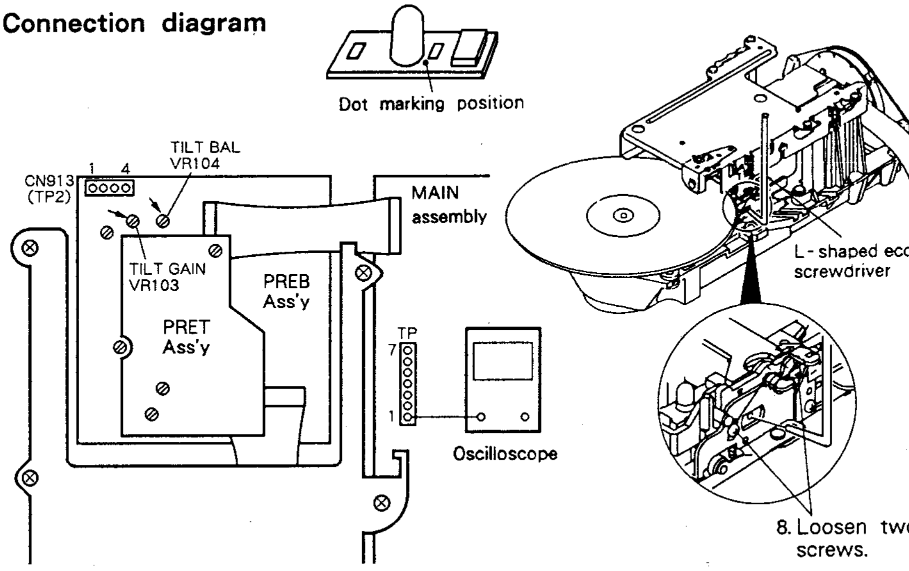
(1) Pickup Tangential Direction Angle Adjustment and Tilt Servo Balance Adjustment (Pickup TRKG direction angle adjustment)

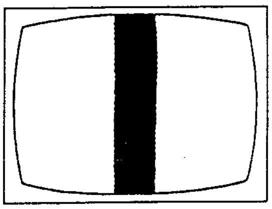
Mechanical Adjustment

- Purpose : To adjust the pickup tangential direction angle so as to minimize crosstalk.
- When not properly adjusted : Noticeable crosstalk will appear.

● Measuring instruments and jigs :	● TV monitor ● L-shaped eccentric screwdriver (GGV-129) ● Oscilloscope
● Measuring point :	● Crosstalk on the screen, MAIN assembly TP1(RF)
● Test disc and player mode	● 8-inch test disc GGV1003···#115(F2···#104), #2,701(Black) ● Still mode ● Test Mode (TRKG servo : Close) ● The carriage assembly should be in the forward state.
● Positions to be adjusted	● Pickup tangential direction angle adjustment screw ● PREB assembly VR103 (TILT gain) and VR104 (TILT balance).

Connection diagram





6, 12. Minimum crosstalk on the screen

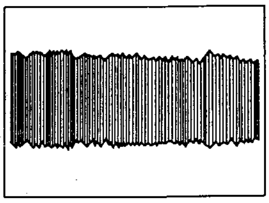


Fig-3 RF waveform

Adjustment Procedure

1. Check the color of the dot marked on the top of the tilt sensor, at the side of the post.
   Some players have red and blue dots. According to the color of the dot, adjust the PREB assembly VR103 as follows :
   Red dot : Turn VR103 fully counterclockwise.
   Blue dot : Turn VR103 fully clockwise.
   No dot : Set VR103 to the center position.

—Pickup Tangential Direction Angle Adjustment—
(Pickup TRKG directional angle adjustment)

2. Make sure the TILT servo is ON. Set the TILT servo balance adjustment VR and VR104 to the mechanical center.
3. Connect TP1 to an oscilloscope.
4. Search for #2,701 and look at the RF waveform. (Fig-3)
5. Adjust VR104 on the PREB assembly to maximize the waveform's amplitude. Turn VR104 slowly to allow the TILT servo to keep pace. (When VR104 is adjusted, the pickup assembly's TRKG directional angle will change.)
6. Search for #115 (#104) and make sure there is no conspicuous crosstalk on the TV monitor.
7. If the crosstalk on the TV monitor is conspicuous, do the following tangential adjustment.

— Pickup tangential direction angle adjustment —

8. Loosen the two screws as shown in the connection diagram.
9. Search for #2,701 and look at the RF waveform. (Fig-3)
10. Insert an L-shaped eccentric screwdriver into the pickup tangential direction angle adjustment hole.
11. While referring to the RF waveform, adjust the tangential direction to maximize the waveform's amplitude.
12. Search for #115 (#104) and make sure there is no conspicuous crosstalk on the TV monitor.
13. After completing the adjustment, tighten the two screws.

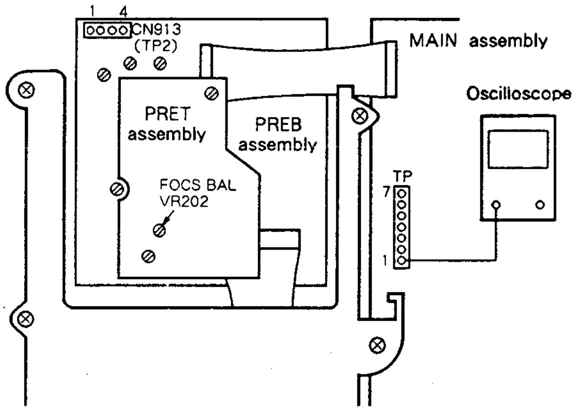
Note : If the pickup tangential direction angle has been changed on the side A playback side, be sure to execute the following : "3. Spindle Motor Centering Check," "9. Centering Adjustment for Side B Play," and "10. Pickup Tangential Direction Angle Adjustment for Side B Play."

(2) LD FOCS Error Balance Adjustment

- Purpose : To ensure that the FOCS servo maintains the objective lens at the optimum distance from the disc surface.
- When not properly adjusted : Crosstalk will be generated.

● Measuring instruments and jigs :	● TV monitor ● Oscilloscope
● Measuring point :	● Video signal output terminal, MAIN assembly TP1(RF)
● Test disc and player mode	● 8-inch test disc GGV1003···#115(F2···#104), #2,701(Black) ● Still mode ● The carriage assembly should be in the forward state.
● Positions to be adjusted	● PRET assembly VR202 (FOCS balance)

Connection diagram



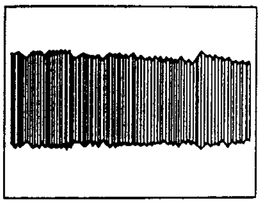
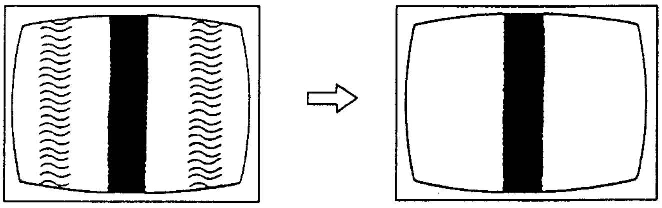


Fig-4 RF waveform



Crosstalk generated on the screen

Minimum crosstalk

3. Adjust VR202 in the PRET assembly for minimum crosstalk.

4. Adjust so taht the crosstalk on the screen is minimum.

Adjustment Procedure

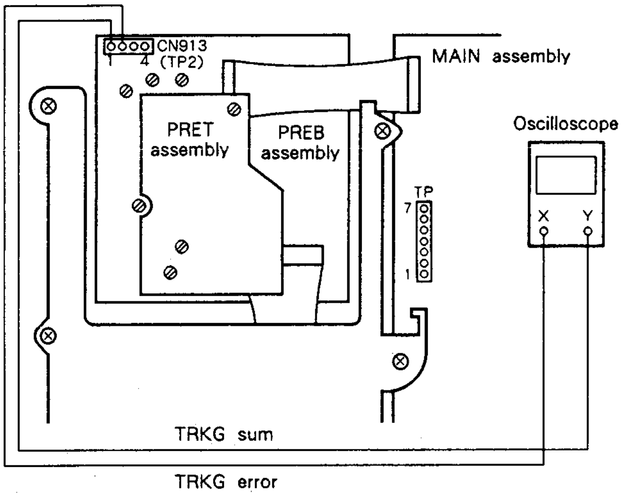
1. Connect TP1 to an oscilloscope.
2. Search for #2,701 and look at the RF waveform. (Fig-4.)
3. Adjust VR202 on the PRET assembly to maximize the waveform's amplitude.
4. Search for #115 (#104) and make sure there is minimal crosstalk on the TV monitor. If the crosstalk still exceeds the allowable amount even after VR202 is adjusted, execute "Pickup tangential direction angle adjustment" and "TILT servo balance adjustment."

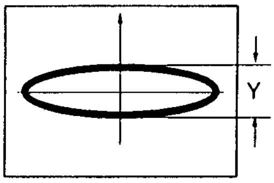
3. Spindle Motor Centering Check

● Purpose : To check that the center of the spindle motor is on the orbit of the laser beam.

● Measuring instruments and jigs :	● Oscilloscope
● Measuring point :	● PREB assembly TP2-2 (TRKG error) and TP2-1 (TRKG sum)
● Test disc and player mode	● 8-inch LD test disc GGV1003···#100 and #22,000 (#100 and #22,000 with a commercially available "karaoke" LD disc) ● Play mode ● CD test disc (YEDS-7) ● Test Mode (TRKG servo : Open) ● The carriage assembly should be in the forward state.
● Positions to be adjusted	● Check the Lissajous figure

Connection diagram





X : 20mV/div, AC input
Y : 20mV/div (1 : 1), AC input
X－Y mode

Fig-5 Lissajous figure of the inner track of the disc (CD)

⇩

Check that Y = Y'

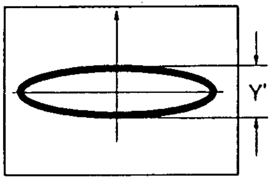


Fig-6 Lissajous figure of the outer track of the disc (CD)

5. The Y-axis of the Lissajous figure should be the same for the inner and the outer tracks.

Note : LD test disc F2 is not suitable for this adjustment because the recorded portion with a track pitch of 1.52μm is present only around inner tracks #1 to #500.

Checking Procedure

1. Play the 8-inch LD test disc.
2. Move the pickup to frame #22,000 by scanning or searching, then open the TRKG servo.
3. Connect TP2-2 in the PREB assembly to the X-input (CH-1) of the oscilloscope and TP2-1 to the Y-input (CH-2).
   Set the oscilloscope to the X-Y mode and observe the Lissajous figures of the TRKG error signal and the TRKG sum signal.
4. Write down the Y-axis amplitudes of the Lissajous figures. (Fig-5)
5. Close the TRKG servo and search frame #100, then open the TRKG servo again to observe the Lissajous figure.
   At this time, check that the Y-axis amplitude of the Lissajous figure is the same as that noted in step 4. (Fig-6)
6. Remove the 8-inch LD test disc from the player, then load the CD test disc and repeat the checking procedures steps 1 to 5. However, it is not necessary to specify the inner or outer track positions of the disc. If the Y-axis amplitude of the Lissajous figure is different for the inner and outer tracks, perform "4. Spindle Motor Centering Adjustment"

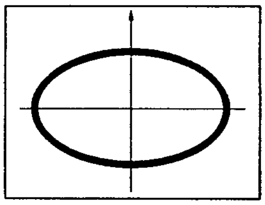


Fig-7 Lissajous figure when not properly adjusted

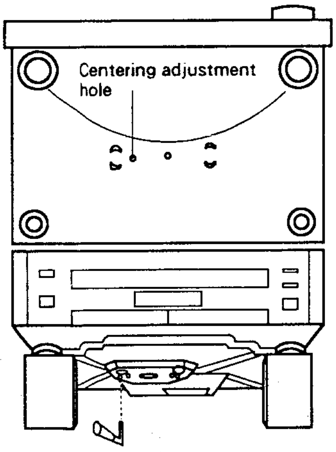
4. Spindle Motor Centering Adjustment

Mechanical Adjustment

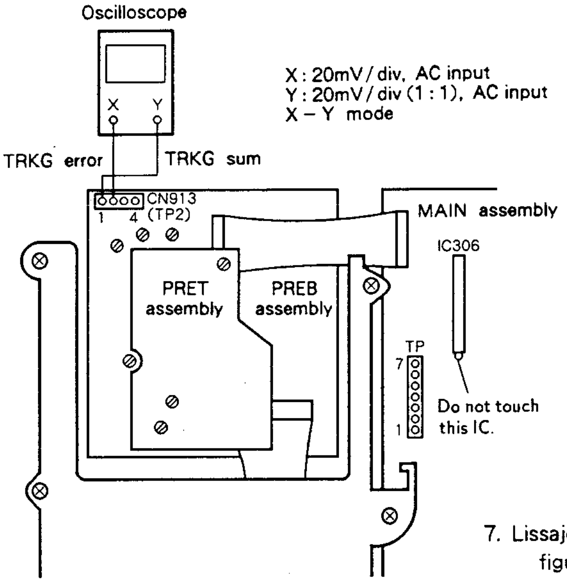
- Purpose : To adjust so that the center of the spindle motor is on the orbit of the laser beam.
- When not properly adjusted : Track skips, or searching takes too long.

● Measuring instruments and jigs :	● L-shaped Phillips ⊕ screwdriver ● Oscilloscope
● Measuring point :	● PREB assembly TP2-2 (TRKG error) and TP2-1 (TRKG sum)
● Test disc and player mode	● 8-inch LD test disc GGV1003···#100 and #22,000 (Or a commercially available "karaoke" LD disc) ● Play mode ● Test Mode (TRKG servo : Open/Close) ● CD test disc (YEDS-7) ● The carriage assembly should be in the forward state.
● Positions to be adjusted	● Spindle motor centering adjustment hole

Connection diagram



7. Adjust the centering adjustment hole.



X : 20mV/div, AC input
Y : 20mV/div (1 : 1), AC input
X – Y mode

7. Lissajous figure.

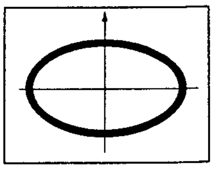


Fig-8

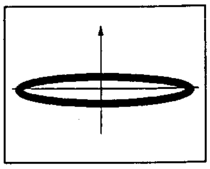


Fig-9

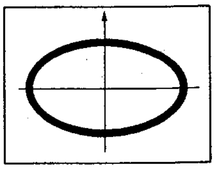


Fig-10

Adjustment Procedure

Note 1: Before making the adjustment, remove the rear panel.

2: For the same reasons given in the "Note" in section 8.4.3, the LD test disc F2 is not suitable for this adjustment.

1. Connect TP2-2 in the PREB assembly to the X-input (CH-1) of the oscilloscope and TP2-1 to the Y-input (CH-2).
2. Play the 8-inch LD test disc and search frame #22,000.
3. Open the TRKG servo and observe the Lissajous figures of the TRKG error signal and the TRKG sum signal.
4. Fine-ajust the grating so that the Y-axis amplitude of the Lissajous figure is minimized. (Fig-9)
5. Close the TRKG servo and search frame #100.
6. Open the TRKG servo again and observe the Lissajous figure and write the Y-axis amplitude.(Fig-8)
7. Insert the L-shaped Philips screwdriver into the adjusting hole from the left bottom of the unit, and turn slowly so that the Y-axis amplitude of the Lissajous figure is reduced.
   After the Y-axis amplitude of the Lissajous figure is minimized, turn the adjusting screw further until the amplitude becomes the same shape as that observed in procedure 6. (Figs 8, 9 and 10)
8. Close the TRKG servo, and move the pickup assembly to the outer track of the disc (#22,000), then perform the adjustments in steps 4 to 6 again.
9. Re-open the TRKG servo and observe the Lissajous figure to check that the Y-axis amplitude is minimum. (Fig-9)
   If the Y-axis amplitude of the Lissajous figure is larger than specified, repeat the adjustment procedures from steps 5 to 8.
10. After adjustment is complete, perform the adjustment in "3. Spindle Motor Centering Check" item 6.

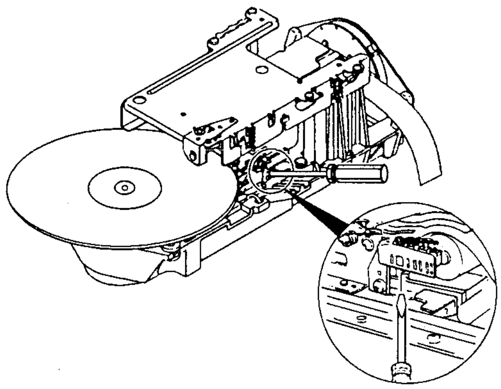
5. Fine Grating Adjustment

Mechanical Adjustment

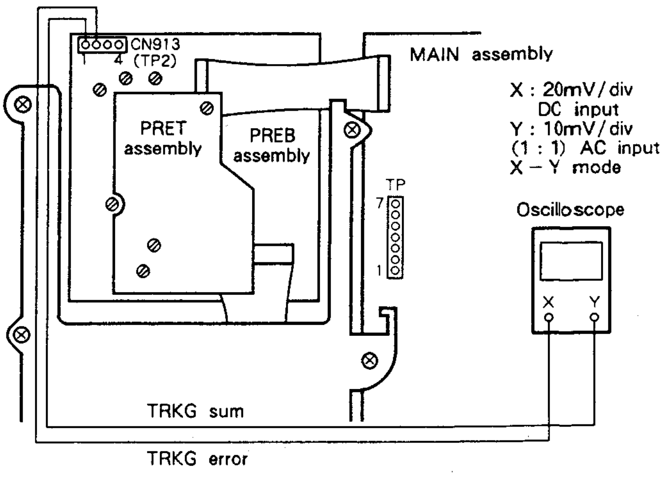
- Purpose : To fine adjust the grating so that the two tracking beams for the TRKG servo are projected in the optimum positions on the tracks being played.
- When not properly adjusted : During play, tracks may be skipped.

● Measuring instruments and jigs :	● Oscilloscope ● Small ⊖ screwdriver
● Measuring point :	● PREB assembly TP2-2 (TRKG error) and TP2-1 (TRKG sum)
● Test disc and player mode	● 8-inch LD test disc GGV1003···#6,500 (F2···#300) ● Still mode ● Test Mode (TRKG servo : Open) ● The carriage assembly should be in the forward state.
● Positions to be adjusted	● Grating

Connection diagram



3. Insert the small ⊖ screwdriver into the grating adjustment hole to fine adjust it.



Adjustment Procedure

1. Play the LD test disc and search frame #6,500 (#300), then open the TRKG servo.
2. Connect TP2-2 in the PREB assembly to the X-input (CH-1) of the oscilloscope and TP2-1 to the Y-input (CH2).
   Set the oscilloscope to the X-Y mode and observe the Lissajous figures of the TRKG error signal and the TRKG sum signal.
3. Insert the small ⊖ screwdriver into the grating adjustment hole, and fine-adjust the grating so that the Y-axis amplitude of the Lissajous figures is minimized. (Fig-11)
   If the grating is turned too much and the optimum position can no longer be found, repeat the "1. Coarse Grating Adjustment".
4. Select the oscilloscope's X-input (CH-1) and check that the positive and negative amplitudes of the TRKG error signal are equal. (Fig-12)
   If they are not, repeat the "1. Tracking Balance Adjustment".
5. Close the TRKG servo and check that the picture (image) on the TV screen is normal.

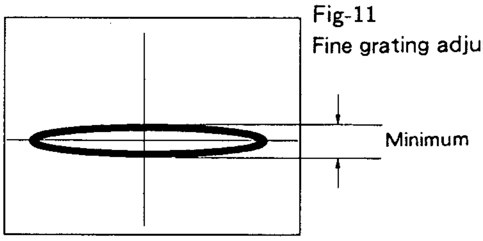


Fig-11
Fine grating adjustment

3. Y-axis amplitude of Lissajous figure becomes minimum.

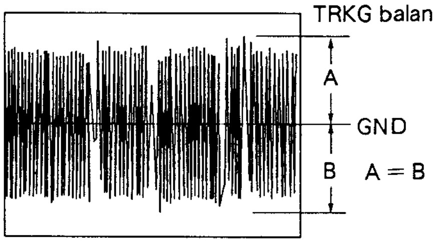


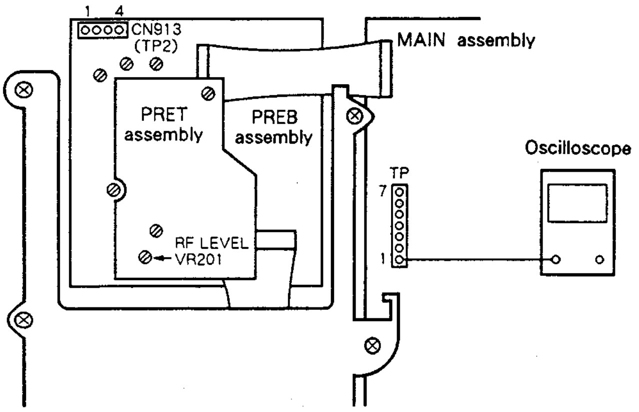
Fig-12
TRKG balance adjustment

6. RF Gain Adjustment

- Purpose : To adjust the RF signal amplitude to the optimum value.
- When not properly adjusted : Dropout occurs frequently.

● Measuring instruments and jigs :	● Oscilloscope
● Measuring point :	● Main assembly TP1 (RF signal)
● Test disc and player mode	● 8-inch LD test disc GGV1003…#15,000 (F2…#15,000) ● Still mode ● Test Mode (TRKG servo : Close) ● The carriage assembly should be in the forward state.
● Positions to be adjusted	● PRET assembly VR201 (RF gain)

Connection diagram


1
4
CN913
(TP2)
MAIN assembly
PRET
assembly
PREB
assembly
Oscilloscope
TP
7
1
RF LEVEL
VR201

2. Connect MAIN assembly TP1 to an oscilloscope.

Adjustment Procedure

1. Play the LD test disc and search frame #15,000 (#15,000).
2. Connect an oscilloscope to MAIN assembly TP1 (RF signal) and observe the RF signal.
3. Adjust PRET assembly VR201 so that the amplitude of the RF signal becomes 300 mV ± 50 mV. (Fig-13)

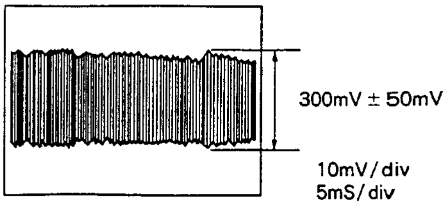

300mV ± 50mV
10mV/div
5mS/div
AC input

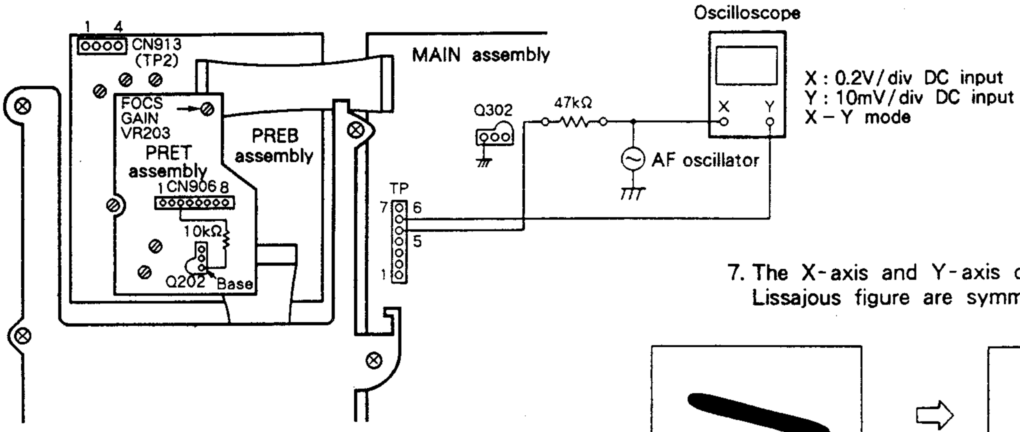
Fig-13 RF signal

7. FOCS Servo Loop Gain Adjustment

- Purpose : To set the loop gain of the FOCS servo to the optimum value.
- When not properly adjusted : Performance deteriorates.

● Measuring instruments and jigs :	● Oscilloscope ● AF oscillator ● Resistor (47k ohms)
● Measuring point :	● MAIN assembly TP5 (FOCS error) and TP6 (FOCS gain)
● Test disc and player mode	● 8-inch LD test disc GGV1003···#15,000 (F2···#15,000) ● Still mode ● TRKG servo : Close ● The FOCS motor protection circuit is disabled. ● The carriage assembly should be in the forward state.
● Positions to be adjusted	● PRET assembly VR203

Connection diagram


Oscilloscope
1 4
CN913 (TP2)
FOCS GAIN VR203
PRET assembly
PREB assembly
1 CN906 8
10kΩ
Q202 Base
MAIN assembly
Q302
47kΩ
X Y
X : 0.2V/div DC input
Y : 10mV/div DC input
X – Y mode
AF oscillator
TP
7 6
5
1

1. Ground the gate of MAIN assembly Q302
2. Connect MAIN assembly TP5, TP6, resistor, AF oscillator, and the oscilloscope as shown.

7. The X-axis and Y-axis of the Lissajous figure are symmetrical.

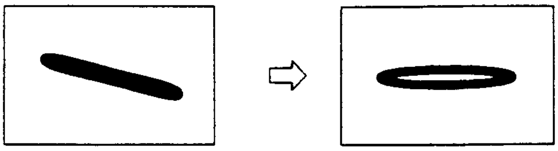

Adjustment not complete
Properly adjusted

Fig-14

Adjustment Procedure

1. Ground the Q302 gate of the MAIN assembly to stop the function of the focus motor protection circuit.
2. Connect MAIN assembly TP5 to the oscilloscope's X-input (CH-1) via the resistor and AF oscillator, and TP6 to the Y-input (CH-2), as shown in the above diagram.
3. Set the AF oscillator output to 1.7 kHz/6 Vp-p for GGV1003, or 1.8kHz/6Vp-p for F2, according to the test disc used.
4. Play the 8-inch LD test disc and search frame #15,000 (#15,000).
5. Set the oscilloscope to the X-Y mode and observe the Lissajous figure.
6. Adjust VR203 in the PRET assembly so that the Lissajous figure is symmetrical on both the X-axis and Y-axis of the oscilloscope. (Fig-14)
7. Release the grounding from Q302 in the MAIN assembly.

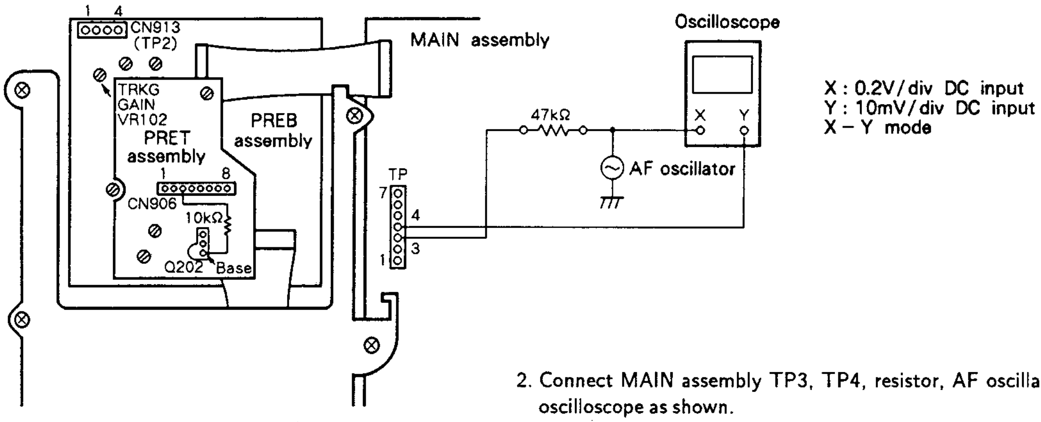
Note : If the AF oscillator output does not exceed 6Vp-p, reduce the value of the resistor (47k ohms) in the above diagram, for easier observation of the Lissajous figure. (not below 33k ohms)

8. TRKG Servo Loop Gain Adjustment

- Purpose : To set the loop gain of the TRKG servo to the optimum value.
- When not properly adjusted : Performance deteriorates

● Measuring instruments and jigs :	● Oscilloscope ● Resistor (47k ohms) ● AF oscillator
● Measuring point :	● MAIN assembly TP3 (TRKG error) and TP4 (TRKG gain)
● Test disc and player mode	● 8-inch LD test disc GGV1003···#15,000 (F2···#15,000) ● Still mode ● TRKG servo : Close ● The carriage assembly should be in the forward state.
● Positions to be adjusted	● PREB assembly VR102

Connection diagram

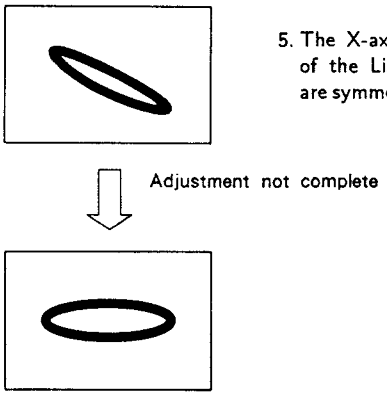

1 4
CN913
(TP2)
TRKG
GAIN
VR102
PRET
assembly
1 8
CN906
10kΩ
Q202
Base
PREB
assembly
MAIN assembly
TP
7
4
3
1
47kΩ
AF oscillator
Oscilloscope
X Y
X : 0.2V/div DC input
Y : 10mV/div DC input
X – Y mode

2. Connect MAIN assembly TP3, TP4, resistor, AF oscillator and the oscilloscope as shown.

Adjustment Procedure

1. Play the LD test disc and search frame #15,000(#15,000).
2. Connect MAIN assembly TP3 to the oscilloscope's X-input (CH-1) via the resistor and AF oscillator, and TP4 to the Y-input (CH-2), as shown in the above diagram.
3. Set the AF oscillator output to 3.0kHz/6Vp-p for GGV1003, or 2.7kHz/6Vp-p for F2, according to the test disc used.
4. Set the oscilloscope to the X-Y mode and observe the Lissajous figure.
5. Adjust VR102 in the PREB assembly so that the Lissajous figure is symmetrical on both the X-axis and Y-axis of the oscilloscope. (Fig-15)

Note: If the AF oscillator output does not exceed 6Vp-p, reduce the value of the resistor (47k ohms) in the above diagram, for easier observation of the Lissajous figure. (not below 33k ohms)


Adjustment not complete

5. The X-axis and Y-axis of the Lissajous figure are symmetrical.

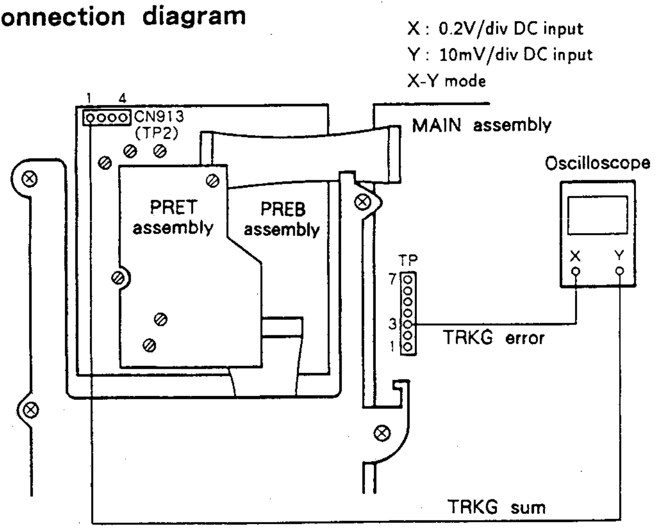
Fig-15 Properly adjusted

9. Centering Adjustment for Side B Play

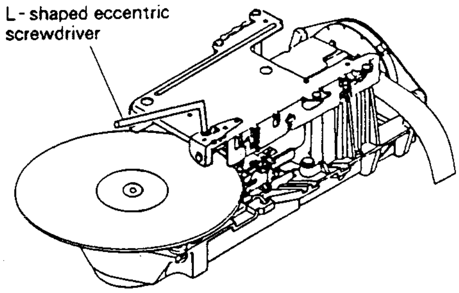
- Purpose : To set the center of the spindle motor on the path of the laser beam when playing the side B of the disc.
- When not properly adjusted : Tracks skipped, longer searching time or searching is impossible when playing side B of the disc.

● Measuring instruments and jigs :	● L-shaped eccentric screwdriver (GGV-129) ● Oscilloscope
● Measuring point :	● MAIN assembly TP3 (TRKG error), PREB assembly TP2-1 (TRKG sum)
● Test disc and player mode	● 8-inch LD test disc GGV1003···#100 (F2···#300) ● Play mode ● The carriage assembly should be in the reverse state. ● Test mode (TRKG servo : Open/Close)
● Positions to be adjusted	● Centering adjustment hole for side B

Connection diagram



2. Centering adjustment for side B play.



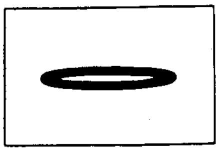


Fig-16

4. X-axis of Lissajous figure maximum.

Adjustment Procedure

1. Turn the LD test disc upside-down (change from side A to side B).
2. Set the oscilloscope to the X-Y mode, and connect MAIN assembly TP3 (TRKG error) to the oscilloscope's X-input (CH-1) and PREB assembly TP2-1 (TRKG sum) to the Y-input (CH-2).
3. Play the LD test disc and search frame #100 (#300), then open the tracking servo.

Note: If the center is too eccentric on side B of the disc, since searching will be impossible on side B, open the TRKG servo when the carriage assembly moves to the side B play position and searches around frame #100.

4. While observing the Lissajous figure on the oscilloscope, insert the eccentric screwdriver into the centering adjustment hole for side B and adjust it so that the X-axis amplitude of the Lissajous figure is minimized (on-track position). Then turn the eccentric screwdriver clockwise further until the X-axis amplitude of the Lissajous figure becomes maximum. (Fig-16)

Note: When "2 (1) Tangential Direction Angle Adjustment" is performed with the pickup in the forward state, perform "10. Pickup Tangential Direction Angle Adjustment for Side B Play" and "Centering Adjustment for Side B play".

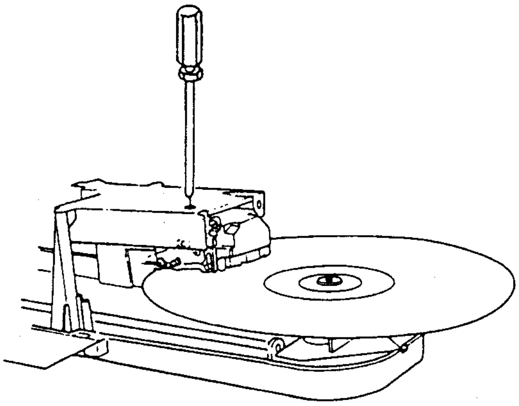
10. Pickup Tangential Direction Angle Adjustment for Side B Play

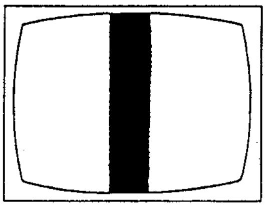
Mechanical Adjustment

- Purpose : To adjust the crosstalk to become minimum in the tangential direction angle of the pickup assembly when playing side B of the disc.
- When not properly adjusted : Crosstalk is significant.

● Measuring instruments and jigs :	● TV monitor ● Small Philips ⊕ screwdriver
● Measuring point :	● Monitor screen
● Test disc and player mode	● 8-inch LD test disc GGV1003···#115 (F2···#104) ● Still mode ● The carriage assembly should be in the reverse state.
● Positions to be adjusted	● Pickup tangential direction angle adjustment screw

Connection diagram





2. Minimum crosstalk

Adjustment Procedure

1. Play the LD test disc and search frame #115 (#104).
2. Check if crosstalk appears on the screen of the TV monitor, and adjust the pickup tangential direction angle adjustment screw so that the crosstalk is minimized.
3. After steps 1 and 2 have been completed, perform "9. Centering Adjustment for Side B Play" again.

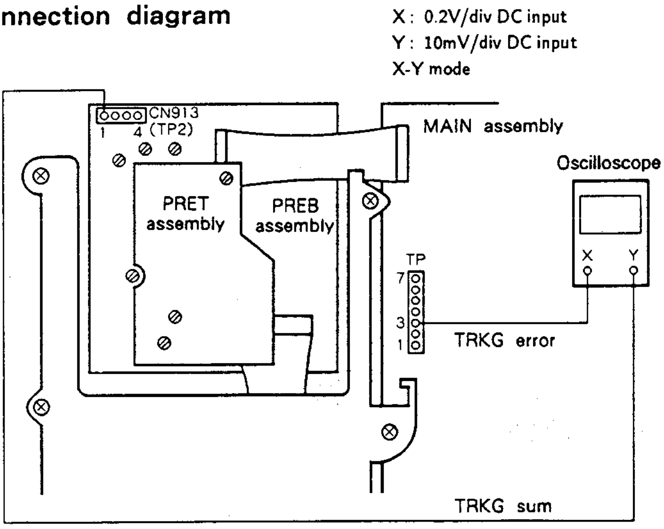
Note : When the pickup tangential direction angle for side B play is varied by this adjustment, the center of the disc for side B may be shifted slightly. As a countermeasure, perform the centering adjustment again.

11. Fine Centering Adjustment for Side B Play

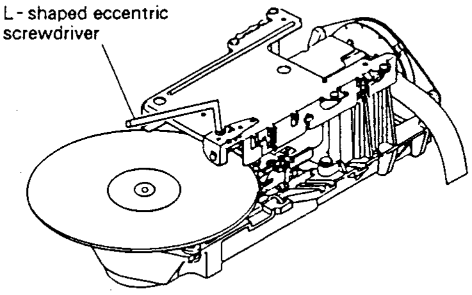
- Purpose : To set the center of the spindle motor on the track of the laser beam when playing the side B of the disc.
- When not properly adjusted : Tracks skipped when playing side B of the disc.

● Measuring instruments and jigs :	● Oscilloscope ● L-Shaped eccentric screwdriver (GGV-129)
● Measuring point :	● MAIN assembly **TP3** (TRKG error), PREB assembly TP2-1 (TRKG sum)
● Test disc and player mode	● 8-inch LD test disc GGV1003··· #100 (F2··· #300) ● Test mode (TRKG servo : Open) ● Play mode ● The carriage assembly should be in the reverse state.
● Positions to be adjusted	● Centering adjustment hole for side B

Connection diagram


X : 0.2V/div DC input
Y : 10mV/div DC input
X-Y mode
CN913
1
4 (TP2)
MAIN assembly
Oscilloscope
PRET assembly
PREB assembly
TP
7
3
1
X
Y
TRKG error
TRKG sum

1. Fine centering adjustment for side B play.


L-shaped eccentric screwdriver

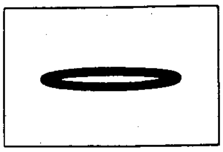


Fig-17

4. X-axis of Lissajous figure maximum.

Adjustment Procedure

1. Set the oscilloscope to the X-Y mode, and connect MAIN assembly **TP3** (TRKG error) to the oscilloscope's X-input (CH-1) and PREB assembly TP2-1 (TRKG sum) to the Y-input (CH-2).
2. Play the LD test disc and search frame #100 (#300).
3. Open the TRKG servo.
4. While observing the Lissajous figure on the oscilloscope, insert the eccentric screwdriver into the centering adjustment hole for side B and adjust it so that the X-axis amplitude of the Lissajous figure becomes maximum. (**Fig-17**)

8.5 ELECTRICAL ADJUSTMENT

Adjustment of LDAB and RDAB Assemblies

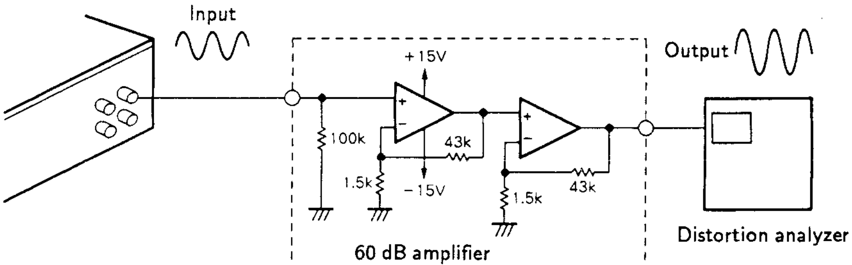
MSB Adjustment (Reference)

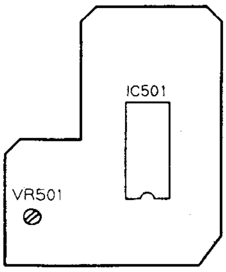
Adjustment of LDAB and RDAB Assemblies

- Purpose : To minimize digital audio distortion.
- When not properly adjusted : Distorted digital audio.

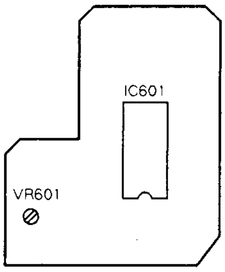
● Measuring instruments and jigs :	● Distortion analyzer ● 60 dB amplifier ● Oscilloscope
● Measuring point :	● Audio output terminal
● Test disc and player mode :	● Playback CD test disc (YEDS-7) track No. 20 (1 kHz, −60 dB)
● Positions to be adjusted :	● VR501 on LDAB assembly and VR601 on RDAB assembly

Connection diagram



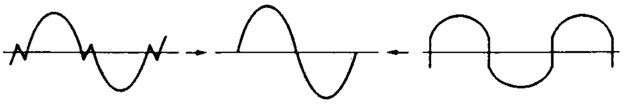


LDAB Assembly



RDAB Assembly

Proper waveform



Adjustment Procedure

1. Connect the 60 dB amplifier between the audio output terminal and the distortion analyzer.
2. Playback track No. 20 (1 kHz, −60 dB) on the CD test disc (YEDS-7).
3. Adjust VR501 on the LDAB assembly and VR601 on the RDAB assembly to minimize the distortion.

If a distortion analyzer is not available, follow the procedure below.

1. Connect an oscilloscope to the audio output terminal by connecting the 60 dB amplifier between the two.
2. Playback track No. 20 on the CD test disc (YEDS-7) and look at the audio output waveform on the oscilloscope.
3. Adjust VR501 and VR601 so that the waveform on the oscilloscope becomes a distortionless sine wave.

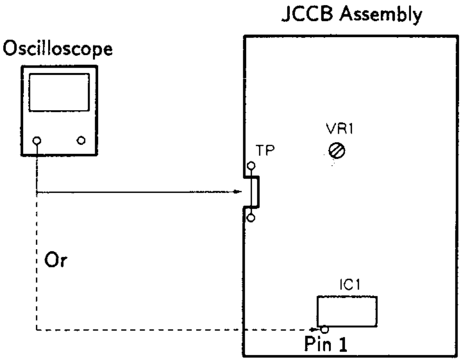
VCXO Error Adjustment

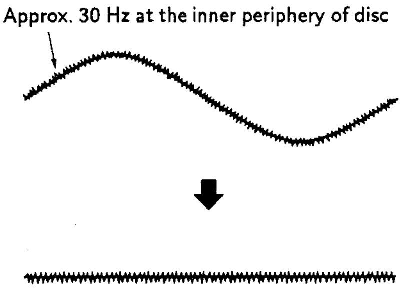
Adjustment of JCCB assembly

- Purpose : To minimize the LDD clock's eccentric jitter.
- When not properly adjusted : Increased eccentric jitter.

● Measuring instruments and jigs :	● Oscilloscope
● Measuring point :	● JCCB assembly TP or IC1 pin 1
● Test disc and player mode :	● Playback LDD disc (inward) ● Normal mode
● Positions to be adjusted :	● JCCB assembly VR1

Connection diagram


JCCB Assembly
Oscilloscope
VR1
TP
Or
IC1
Pin 1

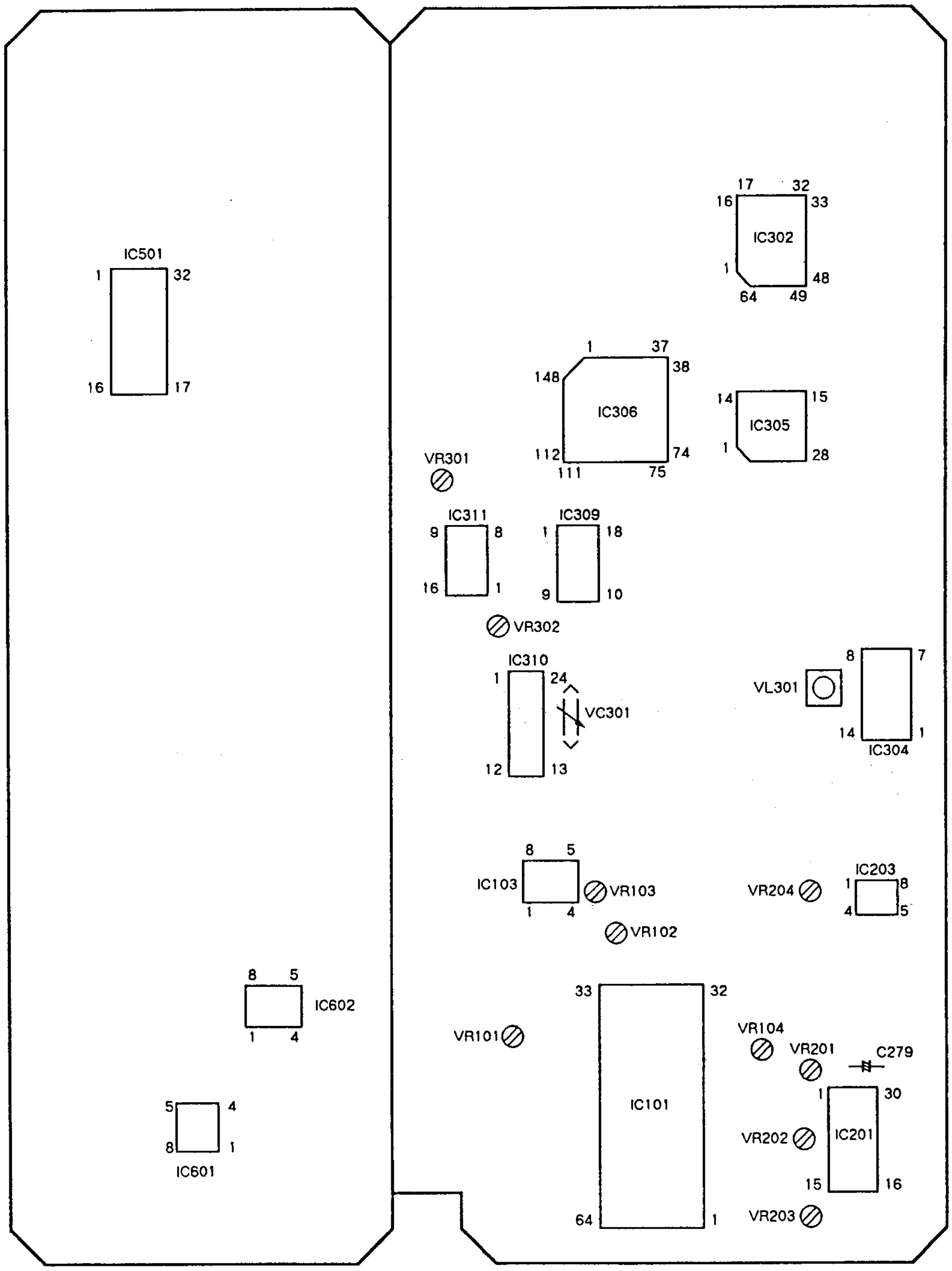

Approx. 30 Hz at the inner periphery of disc

Minimize the waveform's waviness.

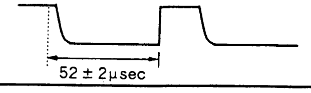
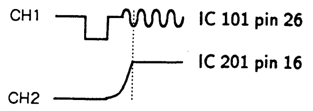
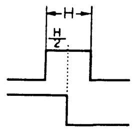
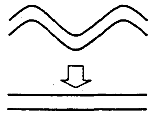
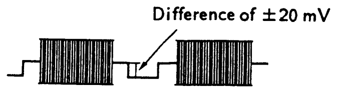
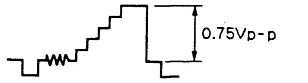
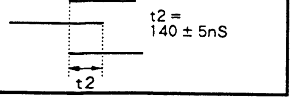
Adjustment Procedure

1. Playback the inner periphery of the LDD disc.
2. Connect the oscilloscope to the JCCB assembly TP or to IC1 pin 1.
3. Adjust VR1 on the JCCB assembly to minimize the waveform's waviness.

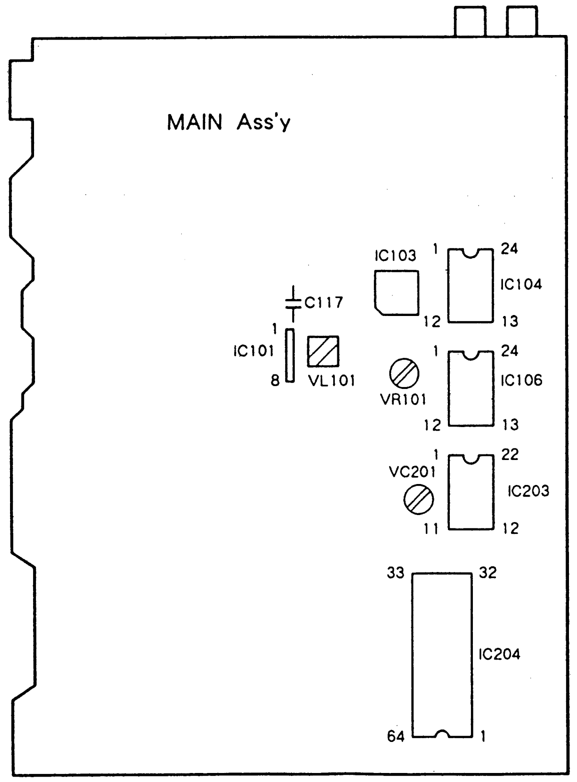
HDTV Ass'y


IC501
1
32
16
17
IC302
17
32
16
33
1
48
64
49
IC306
1
37
148
38
112
74
111
75
IC305
14
15
1
28
VR301
IC311
9
8
16
1
IC309
1
18
9
10
VR302
IC310
1
24
12
13
VC301
VL301
8
7
14
1
IC304
IC103
8
5
1
4
VR103
VR102
VR204
IC203
1
8
4
5
IC602
8
5
1
4
IC601
5
4
8
1
VR101
IC101
33
32
64
1
VR104
VR201
C279
IC201
1
30
15
16
VR202
VR203

● **ADJUSTMENT POINTS**

	Assembly Adjustment Name	Adjustment Point	Measurement Point	Adjustment Description	Player Condition	Oscilloscope	Remarks
	HDTV assembly						
1	Master clock adjustment	VC 301	IC 310 pin 2	With the player's power ON, adjust VC 301 so that IC 310 pin 2 on the HDTV assembly becomes 3.579545 MHz ±200 Hz.	Power ON	Frequency counter	
2	Half H rejection adjustment	VR 201	IC 201 pin 3	During LD disc playback, adjust VR 201 so that the pulse width of IC201 pin 3 on the HDTV assembly becomes 52 ±2 μsec.	LD disc playback	X : 2 V/div Y : 10 μsec/div	
3	Burst gate timing adjustment	VR 203	IC 101 pin 26 IC 201 pin 16	During LD disc playback, adjust VR 203 so that the timing of IC 201 pin 16's pulse startup is the same as the timing of the first wave of IC 101 pin 26's video signal burst.	LD disc playback		
4	VCO offset adjustment	VL 301	IC 203 pin 1	During LD disc playback, adjust VL 301 so that IC 203 pin 1's DC level becomes 0 ±100 mV.	LD disc playback		0±100 mV
5	Detection level adjustment	VR 101	IC 602 pin 6 IC 602 pin 5	During the playback of #4,801 (#5,401) on the LD test disc, adjust VR 101 so that the voltage of IC 602 pin 5 becomes pin 6's voltage of +218 mV ±20 mV.	Playback of #4,801 (#5,401) on LD test disc		Pin 5 voltage = Pin 6 voltage + 218 mV ±20 mV
6	Trapezoid inclination adjustment	VR 202	IC 302 pin 1 IC 201 pin 5	While C 279 is shorted, adjust VR 202 so that the trailing point of IC 201 pin 5 (PB-H) is in the center of IC 302 pin 1's H section.	Memory WRITE PLL LOCK DC reset mode		
7	PLL gain adjustment	VR 204	Audio output terminal (L and R channels)	· During the playback of #2,701 (#2,701) on an eccentric LD test disc, adjust VR 204 to minimize the amplitude of the audio output terminal's waveform and to minimize the L and R level difference. · To make the LD eccentric, cover the disc's center hole with cellophane tape.	Cover the disc's center hole with cellophane tape to make the disc eccentric. Playback #2,701 (#2,701)	10 mV/div 5 msec/div	
8	Sync DC level adjustment	VR 302	Video output terminal	During playback of #2,701 (#2,701) on the LD test disc, refer to the video output terminal's signal with the oscilloscope's V rate and adjust VR 302 so that the pedestal difference becomes 0 ±20 mV.	#2,701 (#2,701) playback	200 mV/div 500 μsec/div V rate	
9	Video level adjustment	VR 102	Video output terminal	During still playback of #19,801 (#19,801) on the LD test disc, refer to the video signal waveform and adjust VR 102 so that the white amplitude from the pedestal becomes 0.75 Vp-p ±5%.	#19,801 (#19,801) still	50 mV/div 50 mV/div	
10	1 H delay video level adjustment	VR 103	IC 101 pins 40 and 42	During still playback of LD test disc frame #19,801 (#19,801), adjust VR 103 to equalize the amplitude from the video signal sync tip of IC 101 pins 40 and 42 to the white peak.	#19,801 (#19,801) still	50 mV/div 50 mV/div	
11	VPS error level adjustment	VR 104	Monitor screen	During still playback (magenta screen) of LD test disc frame #7,201 (#26,101), adjust VR 104 to minimize the color irregularity on the screen.	#7,201 (#26,101) still		
12	140 nsec adjustment	VR 301	IC 311 pin 11 IC 310 pin 7	Look at the waveforms for IC 311 pin 11 and IC 310 pin 7 and adjust VR 301 so that t 2 in the diagram becomes 140 nsec ±5 nsec for IC 311 pin 11's trailing edge.	#7,201 (#6,301) still		

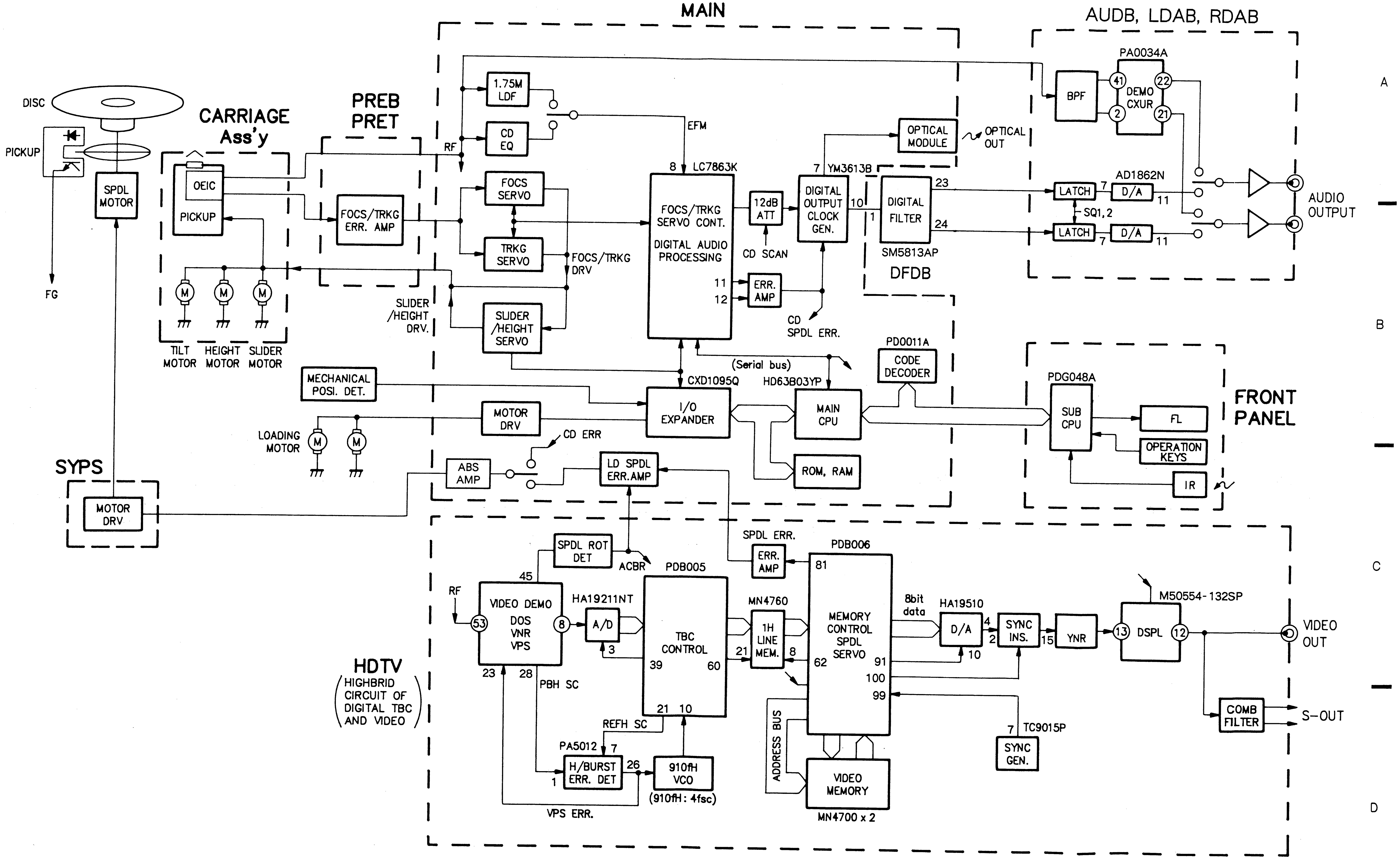
Assembly Adjustment Name		Adjustment Point	Measurement Point	Adjustment Description	Player Condition	Oscilloscope	Remarks
MAIN assembly							
1	Decoder clock adjustment	VC 201	IC 203 pin 3	In the test mode's 3 MHz oscillation mode, adjust VC201 so that IC 203 pin 3's frequency becomes 3 MHz ±0.1 MHz. (See page 94.)	Test mode's 3 MHz oscillation mode	Frequency counter	
2	LDD VCXO free run frequency adjustment	VR 101	IC 106 pin 23	Adjust VR 101 so that IC 106 pin 23's frequency becomes 8.6436 MHz ±400 Hz.	LDD disc playback	Frequency counter	
3	LDD PLL free run frequency adjustment	VL 101	IC 101 pin 7 C117's IC103 prong	Connect a 0.01 μF capacitor to the C 117's IC 103 prong. Connect the capacitor's other prong to GND. Playback the LDD and adjust VL 101 to equalize the IC 101 pin 7 voltage and the voltage when the capacitor is not connected to GND. (Voltage difference of ±0.2 V)	LDD disc playback	Oscilloscope	


MAIN Ass'y
IC103
1
24
IC104
12
13
C117
1
IC101
8
VL101
1
24
IC106
VR101
12
13
1
22
VC201
IC203
11
12
33
32
IC204
64
1

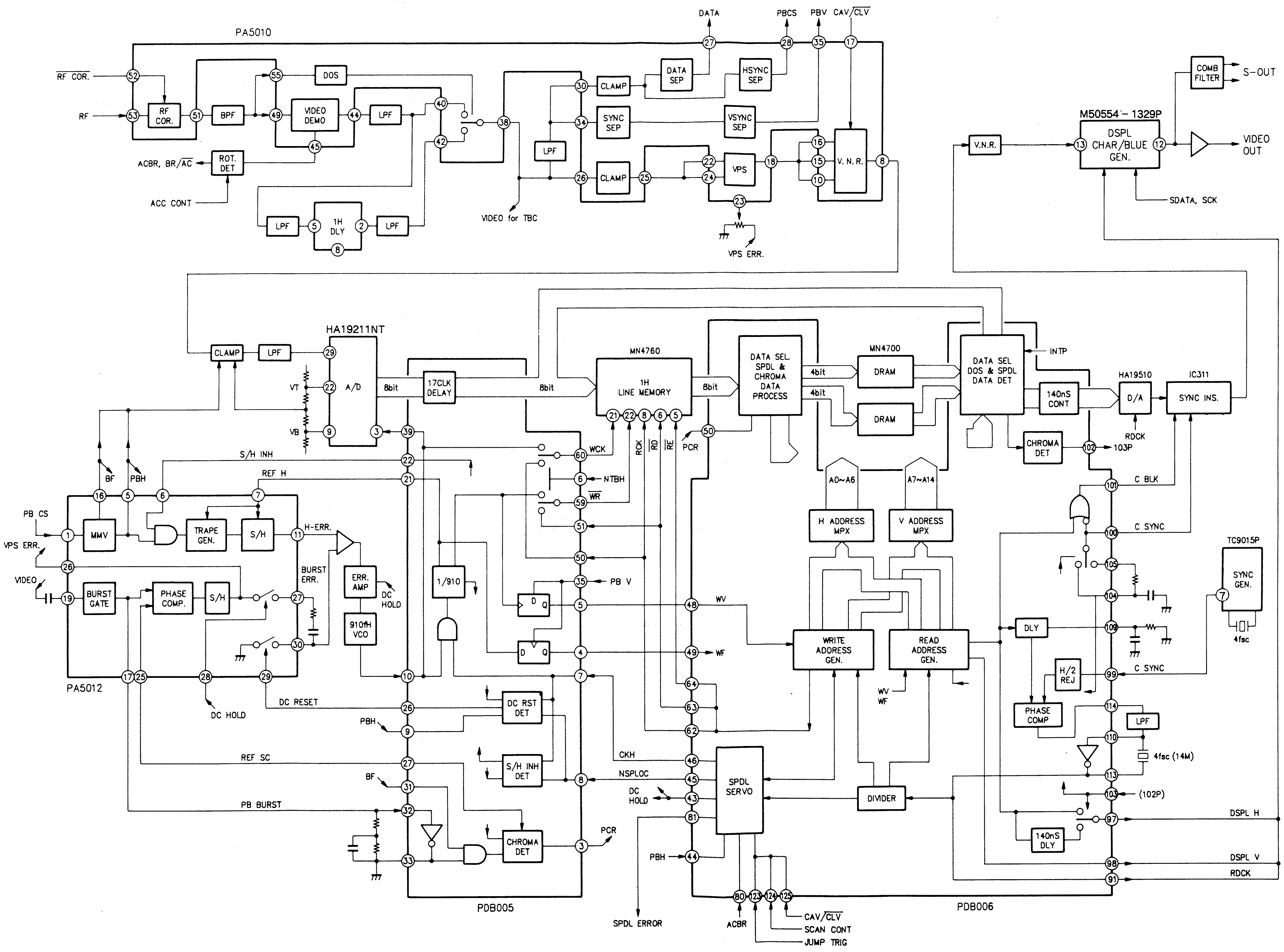
● ADJUSTMENT POINTS

1 2 3 4 5 6

9. BLOCK DIAGRAM


A
B
C
D
MAIN
AUDB, LDAB, RDAB
DISC
PICKUP
FG
SPDL MOTOR
CARRIAGE Ass'y
OEIC
PICKUP
TILT MOTOR
HEIGHT MOTOR
SLIDER MOTOR
M
PREB PRET
FOCS/TRKG ERR. AMP
RF
1.75M LDF
CD EQ
EFM
FOCS SERVO
TRKG SERVO
FOCS/TRKG DRV
SLIDER /HEIGHT DRV.
SLIDER /HEIGHT SERVO
8
LC7863K
FOCS/TRKG SERVO CONT.
DIGITAL AUDIO PROCESSING
11
12
12dB ATT
CD SCAN
ERR. AMP
CD SPDL ERR.
7
YM3613B
DIGITAL OUTPUT CLOCK GEN.
10
1
OPTICAL MODULE
OPTICAL OUT
DIGITAL FILTER
23
24
SM5813AP
DFDB
BPF
PA0034A
41
22
2
21
DEMO CXUR
AD1862N
LATCH
D/A
SQ1, 2
AUDIO OUTPUT
MECHANICAL POSI. DET.
CXD1095Q
(Serial bus)
HD63B03YP
I/O EXPANDER
MOTOR DRV
LOADING MOTOR
MAIN CPU
ROM, RAM
PD0011A
CODE DECODER
CD ERR
ABS AMP
LD SPDL ERR.AMP
SYPS
MOTOR DRV
PDG048A
SUB CPU
FL
OPERATION KEYS
IR
FRONT PANEL
SPDL ROT DET
ACBR
45
RF
53
VIDEO DEMO
DOS
VNR
VPS
23
28
PBH SC
HA19211NT
A/D
3
PDB005
TBC CONTROL
39
60
21
10
REFH SC
PA5012
7
H/BURST ERR. DET
26
910fH VCO
(910fH: 4fsc)
VPS ERR.
HDTV
(HIGHBRID CIRCUIT OF DIGITAL TBC AND VIDEO)
SPDL ERR.
ERR. AMP
MN4760
1H LINE MEM.
21
8
PDB006
81
MEMORY CONTROL SPDL SERVO
62
91
100
99
ADDRESS BUS
VIDEO MEMORY
MN4700 x 2
8bit data
HA19510
D/A
4
10
SYNC INS.
15
YNR
TC9015P
SYNC GEN.
M50554-132SP
13
DSPL
12
VIDEO OUT
COMB FILTER
S-OUT

1 2 3 4 5 6


PA5010
DATA
PBCS
PBV
CAV/CLV
RF COR.
RF
RF COR.
BPF
DOS
VIDEO DEMO
LPF
ROT. DET
ACBR, BR/AC
ACC CONT
1H DLY
VIDEO for TBC
CLAMP
DATA SEP
HSYNC SEP
SYNC SEP
VSYNC SEP
VPS
V. N. R.
VPS ERR.
V.N.R.
M50554 - 1329P
DSPL CHAR/BLUE GEN.
COMB FILTER
S-OUT
VIDEO OUT
SDATA, SCK
HA19211NT
A/D
VT
VB
8bit
17CLK DELAY
MN4760
1H LINE MEMORY
RCK
RD
RE
PCR
WCK
NTBH
WR
DATA SEL. SPDL & CHROMA DATA PROCESS
4bit
MN4700
DRAM
A0~A6
A7~A14
H ADDRESS MPX
V ADDRESS MPX
WRITE ADDRESS GEN.
READ ADDRESS GEN.
DATA SEL DOS & SPDL DATA DET
INTP
140nS CONT
CHROMA DET
103P
HA19510
D/A
RDCK
IC311
SYNC INS.
C BLK
C SYNC
TC9015P
SYNC GEN.
4fsc
DLY
H/2 REJ
PHASE COMP
LPF
4fsc (14M)
(102P)
140nS DLY
DSPL H
DSPL V
RDCK
S/H INH
REF H
BF
PBH
PB CS
VPS ERR.
VIDEO
MMV
TRAPE GEN.
S/H
H-ERR.
BURST GATE
PHASE COMP.
BURST ERR.
ERR. AMP
DC HOLD
910fH VCO
1/910
PA5012
DC HOLD
DC RESET
REF SC
PB BURST
DC RST DET
S/H INH DET
CHROMA DET
PB V
WV
WF
CKH
NSPLOC
SPDL SERVO
DIVIDER
PBH
SPDL ERROR
ACBR
CAV/CLV
SCAN CONT
JUMP TRIG
PDB005
PDB006

10. FOR SD TYPE

10. 1 CONTRAST OF MISCELLANEOUS PARTS

NOTES :

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

The CLD-95/SD type is the same as the CLD-95/KU/CA type with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		KU/CA type	SD type	
◉	PLFB assembly	VWR1097	VWR1096	
	TRSB assembly	....	Non supply	
⚠	Power cord	VDG1046	VDG1047	
	Packing case	VHG1148	VHG1150	For Packing
	Instructions Manual		VRK1002	
⚠	Power transformer	VTT1093	VTT1094	
⚠	Voltage selector	....	VSB1002	
	Front Aluminum assembly	VXA1619	VXA1624	
	Front panel assembly-S	VXX1571	VXX1570	

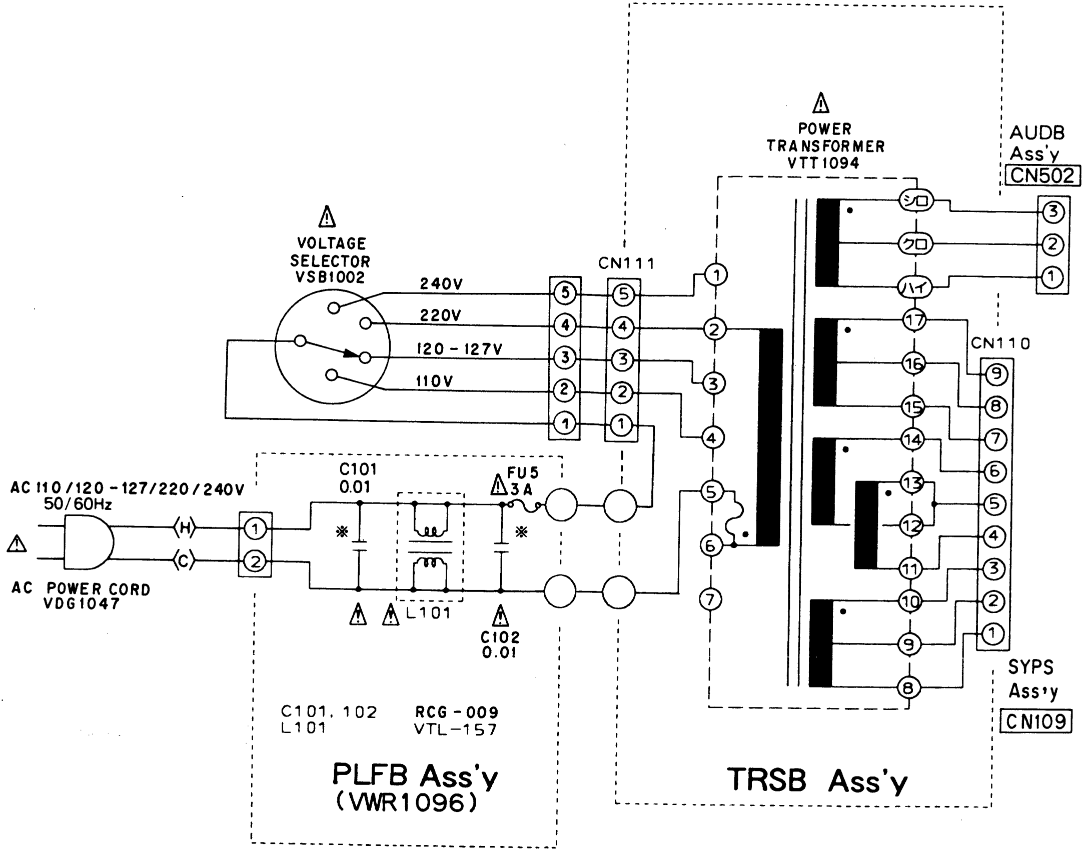
PLFB ASSEMBLY(VWR1096)

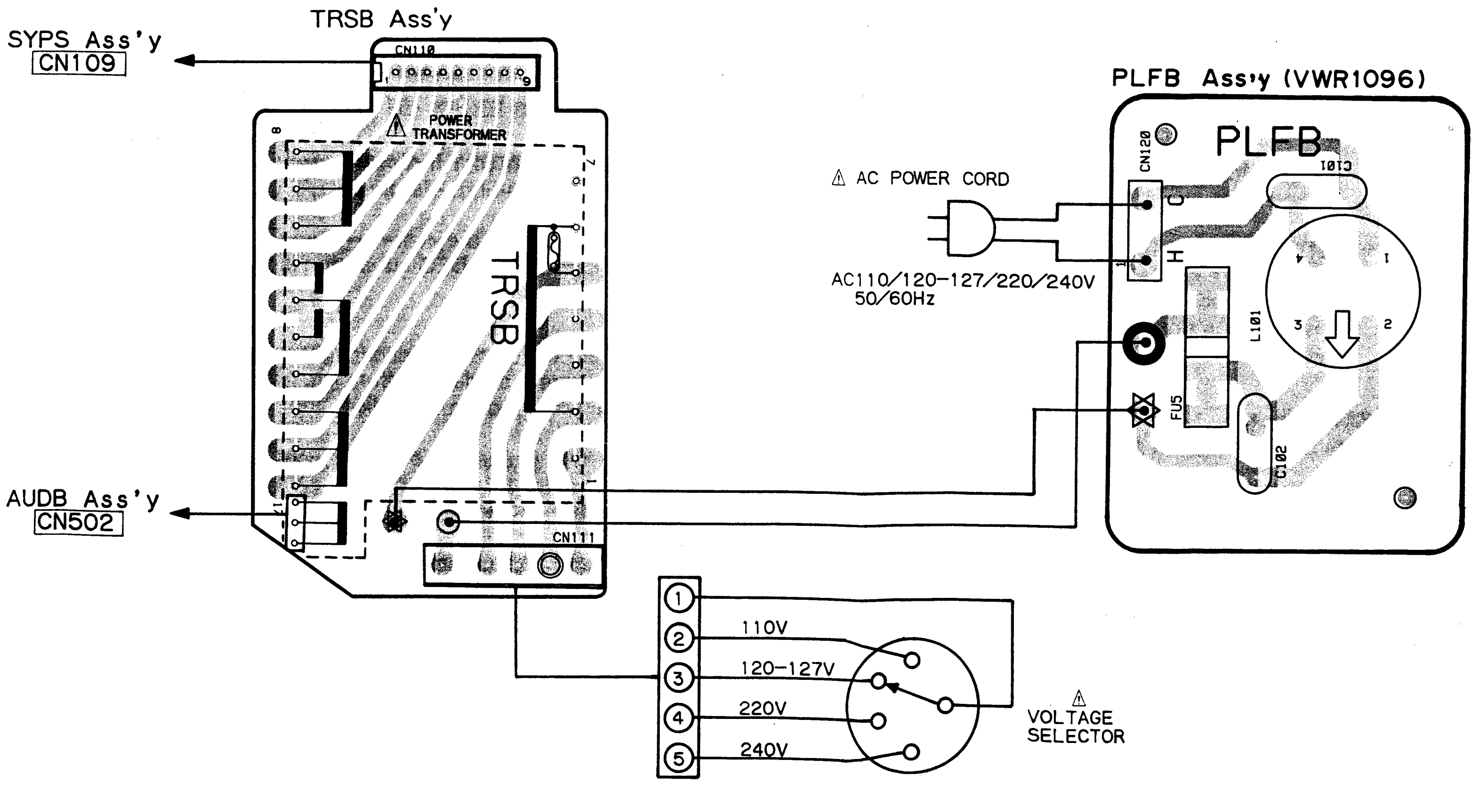
The PLFB assembly (VWR1096) is the same as the PLFB assembly (VWR1097) for the service supply parts.

TRSB ASSEMBLY

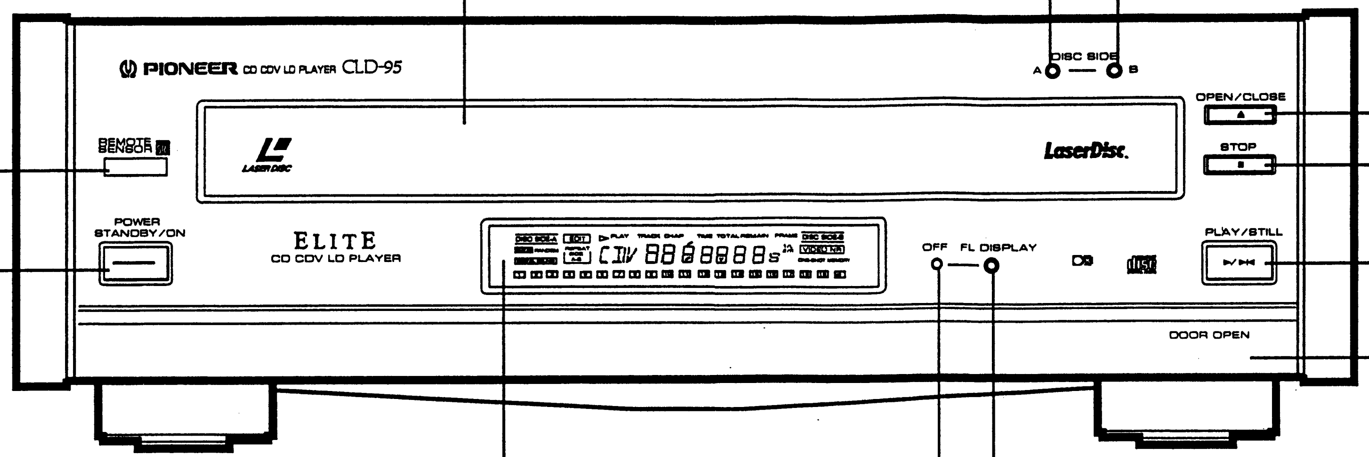
No electrical parts are supplied this assembly.

10.2 SCHEMATIC AND P.C.BOARDS DIAGRAM


⚠ VOLTAGE SELECTOR VSB1002
240V
220V
120 - 127V
110V
CN111
⚠ POWER TRANSFORMER VTT1094
AUDB Ass'y CN502
CN110
SYPS Ass'y CN109
AC 110/120-127/220/240V 50/60Hz
⚠ AC POWER CORD VDG1047
(H)
(C)
C101 0.01
⚠ FU5 3A
L101
⚠ C102 0.01
C101, 102 RCG-009
L101 VTL-157
PLFB Ass'y (VWR1096)
TRSB Ass'y


TRSB Ass'y
SYPS Ass'y CN109
CN110
⚠ POWER TRANSFORMER
TRSB
AUDB Ass'y CN502
CN111
PLFB Ass'y (VWR1096)
PLFB
CN120
⚠ AC POWER CORD
AC110/120-127/220/240V 50/60Hz
L101
FU5
C102
110V
120-127V
220V
240V
⚠ VOLTAGE SELECTOR

11. PANEL FACILITIES


PIONEER CD CDV LD PLAYER CLD-95
REMOTE SENSOR
POWER STANDBY/ON
ELITE
CD CDV LD PLAYER
LaserDisc
DISC SIDE
A
B
OPEN/CLOSE
STOP
OFF
FL DISPLAY
PLAY/STILL
DOOR OPEN

Door/Disc table

DISC SIDE A/B buttons
When a two-sided LD is loaded, side A is the side with the label facing upward, and side B is the side with the label facing downward. Depending on how the LD is loaded, the A and B buttons may not correspond with the indications on the indications on the label (A, B or 1,2).

REMOTE SENSOR

OPEN/CLOSE button

STOP button

POWER STANDBY/ON switch
Press to turn the power on and off.

PLAY/STILL button

Display window

FL DISPLAY button

FL DISPLAY OFF indicator
Lights when the display window and TV screen are turned off using the FL DISPLAY OFF button.

Control panel
The control panel can be opened by pushing on the section indicated by the "DOOR OPEN" label. To close the control panel, gently push the door in until it clicks.

Play indicator
Lights when a disc is being played.

REPEAT indicator
Lights during repeat playback.

EDIT indicator
Lights during auto program editing.

RANDOM indicator
Lights during random playback.

SIDE A indicator

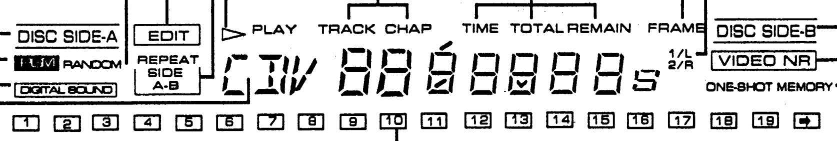
TRACK/CHAP indicator
Indicates the track number or chapter number.

TIME/TOTAL/REMAIN indicator
Indicates the elapsed time, remaining play time or total playing time.

FRAME indicator
Indicates the frame number.

1/L channel, 2/R cahnnel indicator
Indicates the audio output channel(s).

SIDE B indicator


DISC SIDE-A
EDIT
PLAY
TRACK CHAP
TIME TOTAL REMAIN
FRAME
DISC SIDE-B
PGM
RANDOM
REPEAT
SIDE
A-B
DIGITAL SOUND
1/L
2/R
VIDEO NR
ONE-SHOT MEMORY
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
➔

Disc indicator
Indicates the type of disc loaded.

ONE -SHOT MEMORY indicator
Lights during One-Shot Memory playback.

DIGITAL SOUND indicator
Lights when a disc with digital sound is played. Also lights when the digital signal is selected during LD playback.

VIDEO NR indicator
Lights the VIDEO NR button is pressed.

PGM indicator
Lights during program playback.

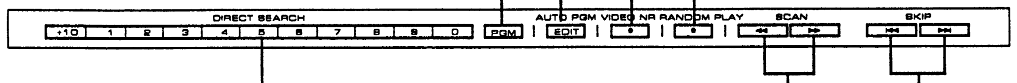
LD CD/CDV visual calendar
When a disc is loaded, the numbers on this calendar light up to indicate the chapter/track numbers recorded on the disc. If 20 or more chapters/tracks are recorded on the disc, the "➔" indicator lights.
During program play, only the programmed chapter/track numbers light. When a disc without a TOC (Table of Contents) section is loaded, only the number of the chapter currently being played lights.
When a CDV disc is loaded, the track numbers of the video part light followed by the track numbers of the audio part.
When a chapter or track finishes playing, the corresponding number is turned off on the display.

PGM (program) button

AUTO PGM EDIT button

VIDEO NR (Noise Reduction) button

RANDOM PLAY button

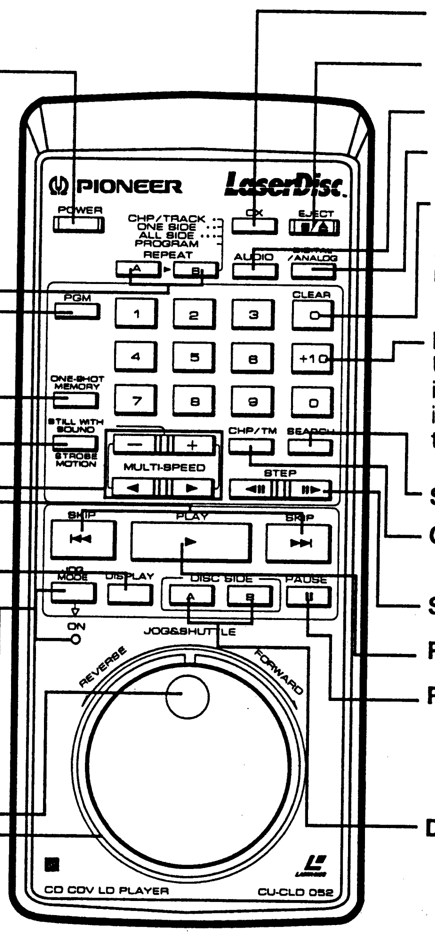

DIRECT SEARCH
+10
1
2
3
4
5
6
7
8
9
0
PGM
AUTO PGM
EDIT
VIDEO NR
RANDOM PLAY
SCAN
SKIP

Digit buttons
Used to input the chapter/track number in Search or Program mode. These buttons are also used to specify the recording time in Auto Program Editing mode.

SCAN buttons

SKIP buttons

Remote control buttons with the same names or marks as buttons on the front panel of the player control the same operations as the corresponding front panel buttons.



POWER button
Press to turn the power on and off.

CHP/TRK ONE SIDE/ALL SIDE/PROGRAM/ REPEAT A/B buttons

PGM (program) button

ONE-SHOT MEMORY button

STILL WITH SOUND/STROBE MOTION button

MULTI-SPEED buttons

SKIP buttons

DISPLAY button

JOG MODE button/JOG MODE ON indicator

JOG dial

SHUTTLE ring

CX button

EJECT button

AUDIO button

DIGITAL/ANALOG button

CLEAR button
Used to cancel Repeat mode or Program mode, to erase file contents, or to correct numbers entered with the digit buttons.

Digit buttons
Used to input the chapter/track number in Search or Program mode. This button is also used to specify the recording time in Auto Program Editing mode.

SEARCH button

CHP/TM (chapter/time) button

STEP buttons

PLAY button

PAUSE button

DISC SIDE A/B button

12. SPECIFICATIONS

1. General

System ....LaserVision Disc system and Compact Disc digital aoudio system
Laser ....Semiconductor laser wavelength 780 nm
Power requirements
  U.S. and Canadian models ....AC 120V, 60 Hz
  Multi voltage model ....AC 110V/120-127V/220V/240V (Switchable), 50/60 Hz
Power consumption 50W
Weight ....14.2 kg (31 lbs 5 oz)
Dimensions ....458 (W) x 439 (D) x 148 (H) mm
18-1/16 (W) x 17-5/16 (D) x 5-13/16 (H) in
Operating temperature..................................+5°C ~ +35°C (41°F - 95°F)
Operating humidity...5% ~ 90%
(There should be no condensation of moisture.)

2. Disc

LaserVision Discs

*Maximum playing times
  12-inch standard play disc ....1 hour/both sides
  12-inch extended play disc ....2 hours/both sides
  8-inch standard play disc......................28 min/both sides
14 min/one side
  8-inch extended play disc ....40 min/both sides
20 min/one side
Spindle motor speed
  Standard play disc ....1,800 rpm
  Extended play disc ....1,800 rpm (inner circumference) to 600 rpm (outer circumference) (For a 12-inch disc)

Compact Discs

DISC ....Diameter: 5-inch, 3-inch, Thickness: 1.2 mm
Rotation direction (pickup side) ....Counterclockwise
Liner speed ....1.2 ~ 1.4m/sec
*Maximum playing time
60 min. or more: 5-inch discs
20 min. or more: 3-inch discs
(For stereo playback)

Compact Discs with Video

Disc ....Diameter: 5-inch, Thickness: 1.2 mm
Rotation direction (pickup side) ....Counterclockwise
Linear speed..........................Audio portion: 1.2 ~ 1.4m/sec
Video portion: 11 ~ 12m/sec
Maximum playing time...............Video portion: 5 min. (CLV)
Audio portion: 20 min. (Digital)

** Actual playback time differs for each disc.*

3. Video characteristics (2 pairs)

Format ....NTSC spefifications
Video output
  Level.............1 Vp-p nominal, sync. negative, terminated
  Impedance ....75 Ω unbalanced
  Jack ....RCA jack

4. S-Video output (2 pairs)

Y (luminance) - Output level ....1 Vp-p (75 Ω)
C (color) - Output level ....286 mVp-p (75 Ω)
Jack ....S-VIDEO jack

5. Other Terminals

Control imput/output ....Both miniature jacks
Optical digital output ....Optical digital jack

6. Audio characteristics (2 pairs)

Output level
  During analog audio output ....200 mVrms (1 kHz, 40%)
  During digital audio output ....200 mVrms (1 kHz, –20 dB)
Jacks ....Both RCA jacks
Number of channels 2

Digital Audio Characteristics

Frequency response	4 Hz - 20 kHz (±0.2dB) (EIAJ)
SN ratio	115 dB (EIAJ)
Dynamic range	99 dB (EIAJ)
Channel separation	105 dB (EIAJ)
Total harmonic distortion	0.0017% (EIAJ)
Wow and flutter	Limit of measurement (0.001% W. PEAK) or less (EIAJ)

7. Accessories

Remote control unit (CU-CLD052) 1
Size "AAA" (IEC R03) dry cell batteries 2
S video cord 1
Video cord 1
Audio cord 1
Operating instructions...1
Warranty card...1

Player Functions

- Display ON/OFF, Visual Calender Display
- Random Play, Auto Program Edit
- Display ON/OFF
- Video NR
- Last Memory
- correspond to LD with digital audio

NOTE:
The specifications and design of this product are subject to change without notice, due to improvement.